THE MAGAZINE ABOUT RAILROADS •

# Trains

DECEMBER, 1947

# 'twas the night before Christmas...

**...And this little miss asleep** in a cozy roomette, her stocking hung high in great expectation, symbolizes the spirit you find aboard Pennsylvania Railroad's great East-West Fleet at this season of the year. Step into cars aglow with good cheer and good fellowship . . . glance at the array of beribboned gifts heaped high in racks and rooms. Stroll into the Dining Car and enjoy the festive foods of the day . . . get a good night's sleep in a comfortable bed—arrive refreshed. And above all, enjoy the peace of mind that comes from knowing your train will get you there—conveniently, and at low cost. All aboard . . . to a Merry Christmas and Happy New Year!

**PENNSYLVANIA RAILROAD**

*Serving the Nation*

# Trains

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Linn H. Westcott - Editorial Director

Editors

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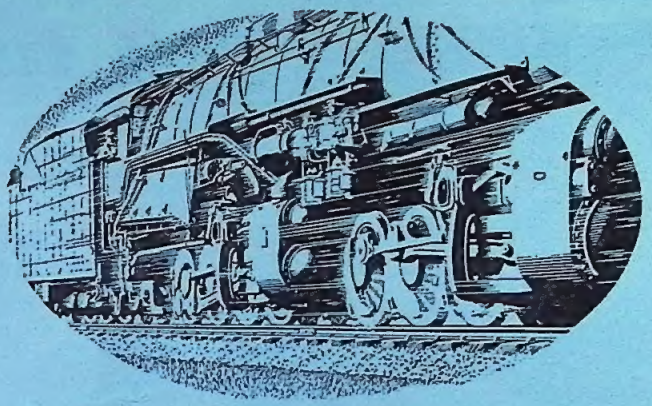
Frank P. Donovan Jr. — Charles Komes
David Strassman — Earl A. Heise



*"In meeting the problems presented by war, transportation did the impossible. In meeting the problems of peace, we cannot expect it to continue to work miracles and live on as a part of our free enterprise system if it is starved or throttled by forces within itself or by regulations that impose impossible restraints." — Hon. Clarence F. Lea, Chairman, House Committee in Interstate and Foreign Commerce.*

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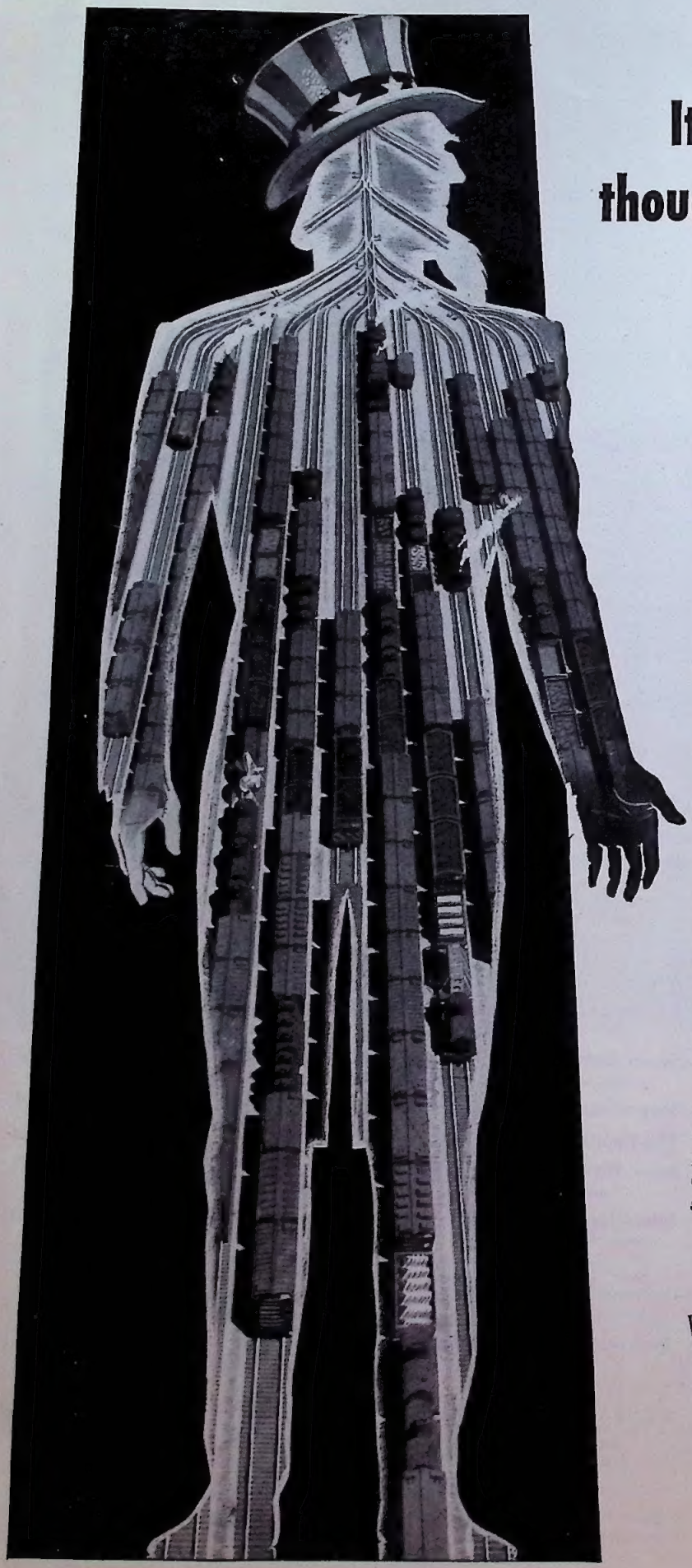


# It's time Uncle Sam thought about his arteries

**Most of the great life stream** that keeps you and your country alive—food, fuel, goods, services—flows through your railroads.

The continuing ability of this life line to do its job and do it well depends upon a continuing, vigorous program of research and invention, replacement and improvement in plant, equipment, and service.

**This takes dollars**—lots of dollars. Dollars that railroads must get either from their earnings or by borrowing—and to borrow money at reasonable rates railroads must have adequate earnings. But today the earnings that sustain your railroads are dangerously low.

This year railroads expect to average less than 3% on their investment. But even this will not be clear profit. Out of it railroads must pay interest on borrowed money, rentals of property and equipment, and must provide for needed improvements. Most people think a return of 6% would be no more than fair—and experience has shown that railroads need 6% to keep their plants and equipment abreast of the times.

**Why** are railroads faced with this situation? Here's why. Since 1939 railroad wage rates are up more than 67% . . . costs of materials and supplies are up 87%. But increases in freight and passenger charges authorized by the Interstate Commerce Commission have not come anywhere near offsetting these skyrocketing costs.

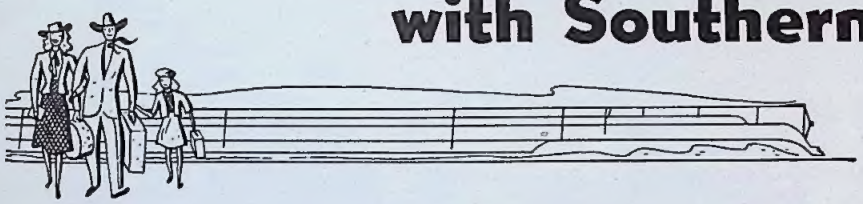
So, in spite of handling a record-breaking peacetime traffic with an efficiency which has set new transportation records, railroads are faced with the grim reality that their earnings are far short of their needs.

The plain fact is that in order to continue to give the nation the transportation service it demands, railroads must be allowed to charge enough for their freight and passenger services to enable them to earn a return comparable to that earned by other progressive, self-supporting private enterprises.

**Association of American Railroads**

WASHINGTON 6, D. C.

# Follow the sun west with Southern Pacific



It's a pleasant chase, following the sun with Southern Pacific. And S. P. is the logical way to go, if you plan to spend the winter where the sun does. Our *Golden State* and *Sunset Route* trains between Chicago or New Orleans and Los Angeles are the *only* mainline trains direct to Tucson, Phoenix, Palm Springs and other resort and guest ranch centers in the Southwest.

Old swimmin' hole — Southern Arizona style

Everything about these trains is designed for your comfort. They are fast. For example: Only 35 hours from fascinating New Orleans to Tucson on the *Sunset Limited* via San Antonio and El Paso; 39¼ hours, Chicago to Phoenix, on the *Golden State* (Rock Island-Southern Pacific). But, more important, they are smooth-riding, air-conditioned, clean and safe — as are their companion trains, the *Argonaut* and *Imperial*. Whether you ride in luxurious modern Pullmans, or low-fare reclining-chair cars, you enjoy the comforts of home en route on S. P. trains.

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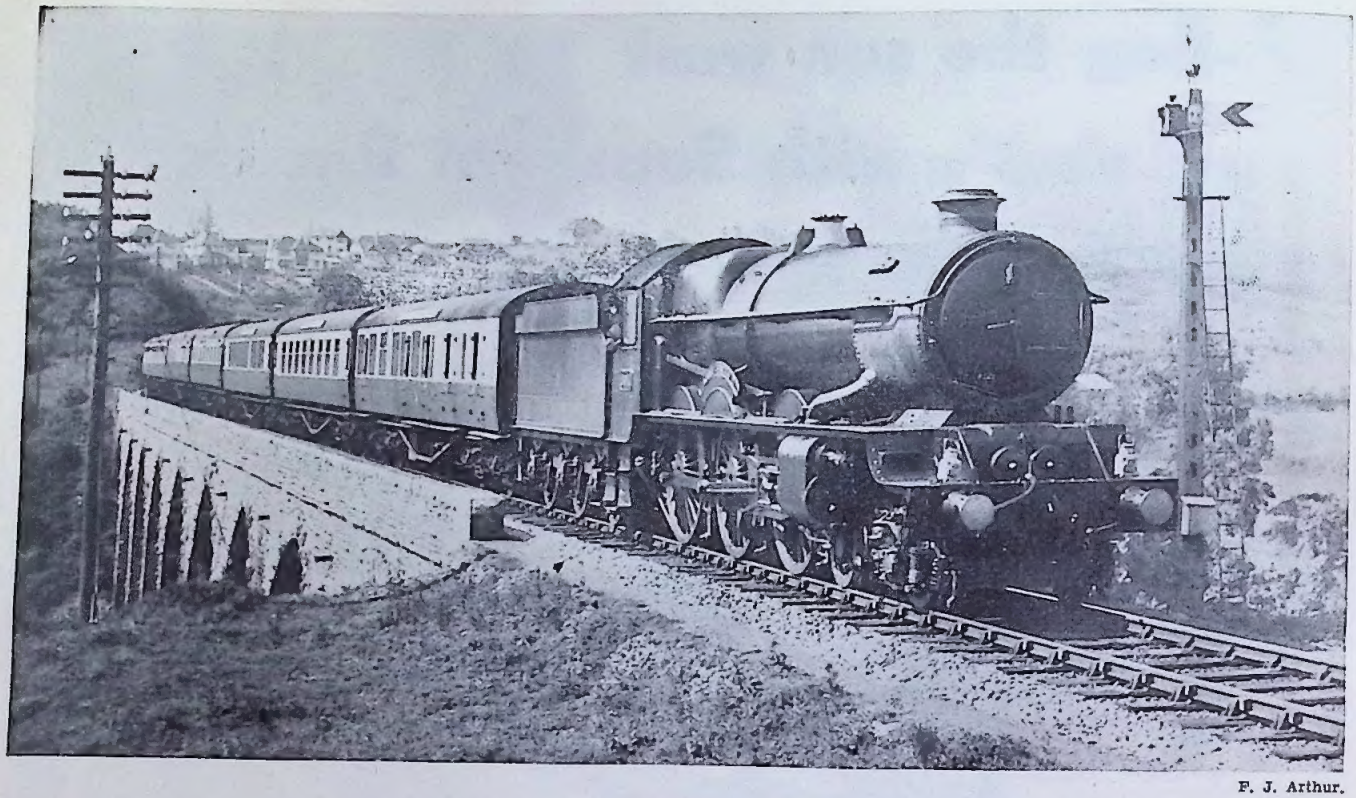
**S·P** The friendly Southern Pacific



F. J. Arthur.

# British nation takes over railways

**Proponents of government ownership have won their point, and nationalization will become effective on January 1. What will this do to railfan interest?**

BY HOWARD W. A. LINECAR

*What* will be the effects of nationalization of the British railways? How will it affect the employees, and how will it affect train service? Will nationalization lead to such a state of standardization of equipment that all interest will go out of railroading? What do the English people think of the deal?

Very broadly speaking, the British public is divided into three groups of thought on this subject. One group thinks it is a bad thing to involve the railways in government red tape and doubts that the public will be better served under nationalization, which will become effective January 1, 1948. Another group feels that so large a public undertaking as the railways should not be privately owned by a relatively small number of shareholders. The third group bothers itself only with the compensation to be paid to shareholders in the form of government shares. This group feels the compensation is inadequate.

The small railway investor claims to be the hardest hit. He will have to accept the new stock at the government's valuation of his original holding, and he feels that the government's valuation is far too low.

As far as railway workers themselves are concerned, they will probably be the least affected by the change of ownership. It merely becomes a matter of choice as to whether one wants to work as a government employee instead of as an employee of a public utility.

How nationalization will affect train service can as yet only be the subject of speculation. Services which don't pay will probably be cut out; otherwise, at election time, the cry will go out, "Look how much money the taxpayer is having to pay for the railways owing to the nationalization muddle." This, however, is only what would have happened in the past; the same sort of question would have been asked at shareholders' meetings when dividends failed to roll in.

The benefits of competition between lines, each trying to offer better and faster services with the greatest comfort, will be gone, since under nationalization no such competition will be possible. This is bad, since it removes the incentive to individual effort on the part of every worker on the railway. Nobody assumes the responsibility for anything; everything can be pushed onto "the government," a body of legislators at Westminster who may change every five years and leave their responsibilities to the new government. This, in the long run, can hardly fail to have an adverse effect on service, since "it's no business of mine" tends to become the watchword of government departments.

Americans who have been in England and noted the diversity of equipment in use on the four mainline railways will wonder whether standardization of equipment will take all interest out of the railroads.

For the answer to that question we can look to the past. The first real step toward nationalization was taken in 1923, when 123 separate railway companies were ordered by the government to amalgamate into the four present regional groups: the London, Midland & Scottish, the London & North Eastern, the Great Western, and the Southern, to take them in order of size. This step undoubtedly put an end to a lot of uneconomic competition without removing the competition factor altogether, and prepared the railways in some measure to face the menace of increasing road travel services. In such a way the present nationalization may help them face air competition.

But to the railfan the change was a sad one. Among the first things he missed were the different color schemes which had characterized each line. These schemes soon vanished, but the equipment has not all been standardized yet. Only last April the LMS announced that it had succeeded in reducing the number of different types of locomotive to a standard of 11. This is really only on paper, a future policy, since the LMS still has many steam locomotives which were built in the last century, though these are mainly relegated to minor and freight services. The same is true of the other three lines, with the possible exception of the Great Western. The latter road has far fewer locomotives of the late 1800's still in service due to the fact that at the 1923 amalgamation the Great Western took into its fold fewer small companies with their mixed stock of locomotives than the other three companies did. The fairly broad policy of locomotive standardization which had been in effect on the Great Western since about 1900 was therefore not much disturbed by the amalgamation.

The same may be said of passenger cars, signaling, and architecture. Though the four lines have standardized much of their express-passenger rolling stock, many old-time cars are still roaming the country. Different types of pre-amalgamation signals have been replaced by electric color-light signals only on the main lines; they still exist on less important routes. Few stations have been rebuilt, and it is here that the stamp of pre-amalgamation individualism is strongest. Old railroaders will often tell you, "Ah, that is typical old pre-grouping architecture; you can tell at a glance that this was the old London & North Western."

Though the tide of standardization has set in, it has not yet advanced so far as to remove all interest from British railroading. Far from it. There are probably more people today who take an intelligent interest in Britain's railways than there ever were before, if sales of railway literature are any standard by which to judge. Even with nationalization of the railways it will be many years before complete standardization of equipment is achieved. The British railfan has many years of interest before him yet, though some of them may well be spent in lamenting the scrapping of the last of this item or that.

*Standardization* may be accelerated by the shortage of coal and its present poor quality. The British railways are fast beginning to follow the American lead by introducing diesel locomotives. The LMS has announced a number of standard types about to be introduced for all forms of service. The Great Western is experimenting with jet-turbo-electric traction, and the Southern is about to extend its electrification while going into the diesel field at the same time. All four lines have had a small number of diesel switchers in use for some years, long enough to appreciate the diesel's advantages and weigh its shortcomings.

The catch about diesel locomotives for England is that she must import every barrel of oil burned. To turn to 100 per cent diesel traction would, for that country, seem like having the infantry advancing with its field kitchens about 500 miles away. It is true that the navy has used oil fuel for a decade, but in a pinch the navy can always go and get the oil. The railways cannot; they're entirely dependent on the merchant marine.

On the face of it, it would seem that experiments now going on in America with jet-turbo-electric power plants using pulverized coal are of far more importance to the English railway system than the development of diesel types — that is, assuming that the National Coal Board can be depended upon to deliver the goods. It may be true that there is a big future for such coal-burning power units in England.

*"Now that Great Britain has gone over to nationalization, the United States, with its great mileage, stands out steadfast as private enterprise. If the railroads of the United States were able to withstand the pressure for government control in the dangerous days of war, it would seem that the forces at work to bring about government ownership in time of peace would be less. They are, but they are nevertheless consistently at work. We must be on our guard against them at all times. The price of private enterprise is eternal vigilance against those forces that tend to undermine it. . . . Railroads must be saved to private enterprise in order to preserve our American way of life." — Dr. C. S. Duncan, Economist, Association of American Railroads.*

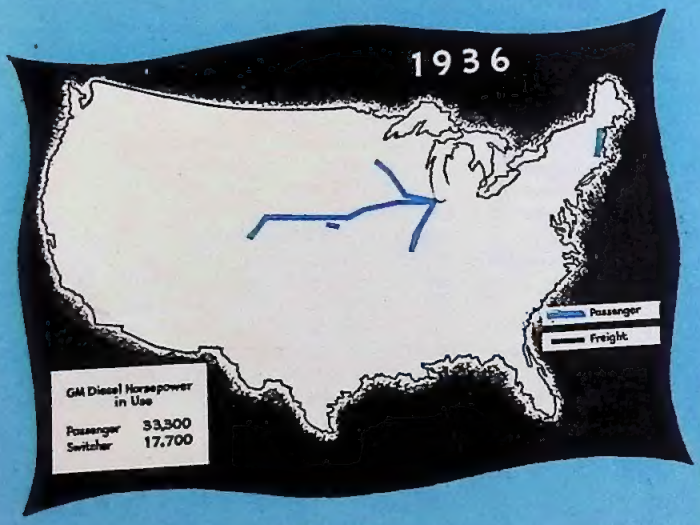
Associated British & Irish Railways.

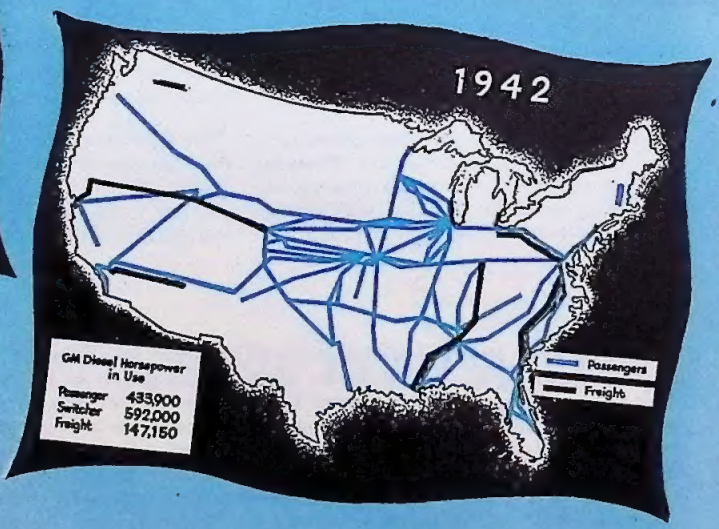
**Today this train↖ can be identified as belonging to the Great Western Railway, but after January 1 it will only be a part of the nationwide system of British railways. The train is the Torbay Express and it is nearing the end of its run from London to Kingswear. The engine is a king class Pacific. The London, Midland & Scotish Railway's engine 6224↙ is named Princess Alexandra and is the same type of Pacific locomotive which headed the Coronation Scot when it visited the United States in 1939 for exhibition at the New York World's Fair. The Princess is taking a drink. The London & North Eastern's Cambridge-to-London Express↘ is shown emerging from Audley End Tunnel. The Southern Railway's CC-1 electric locomotive→ is a dual-service job which somehow manages to exert drawbar pull even though none of its third-rail shoes are in contact with the rail. The locomotive was developed during the war and details were not made public.**

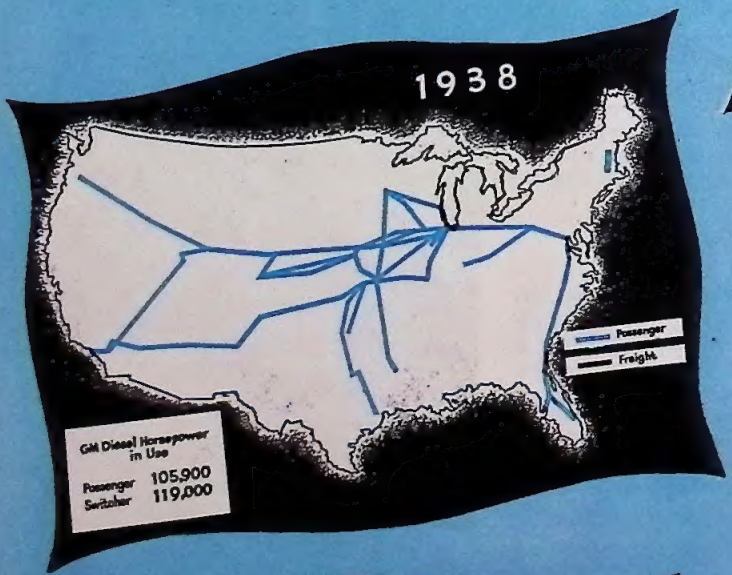
Associated British & Irish Railways.

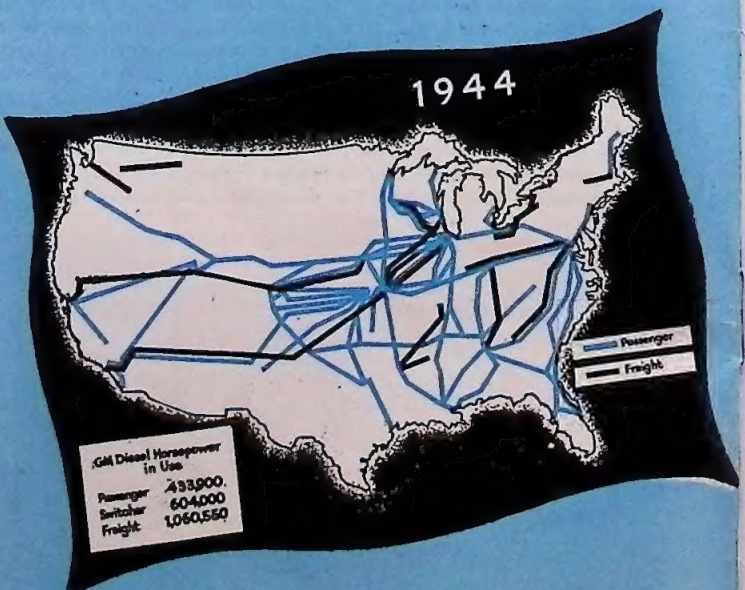
E. R. Wethersett; courtesy *The Locomotive*.

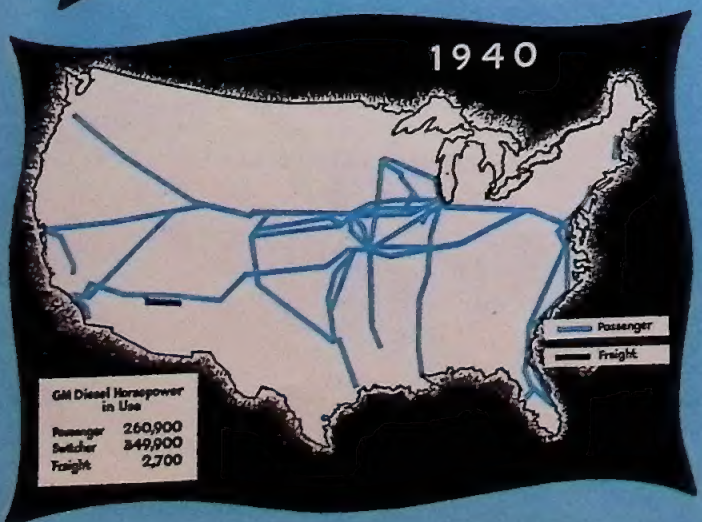
# General Motors Diesel



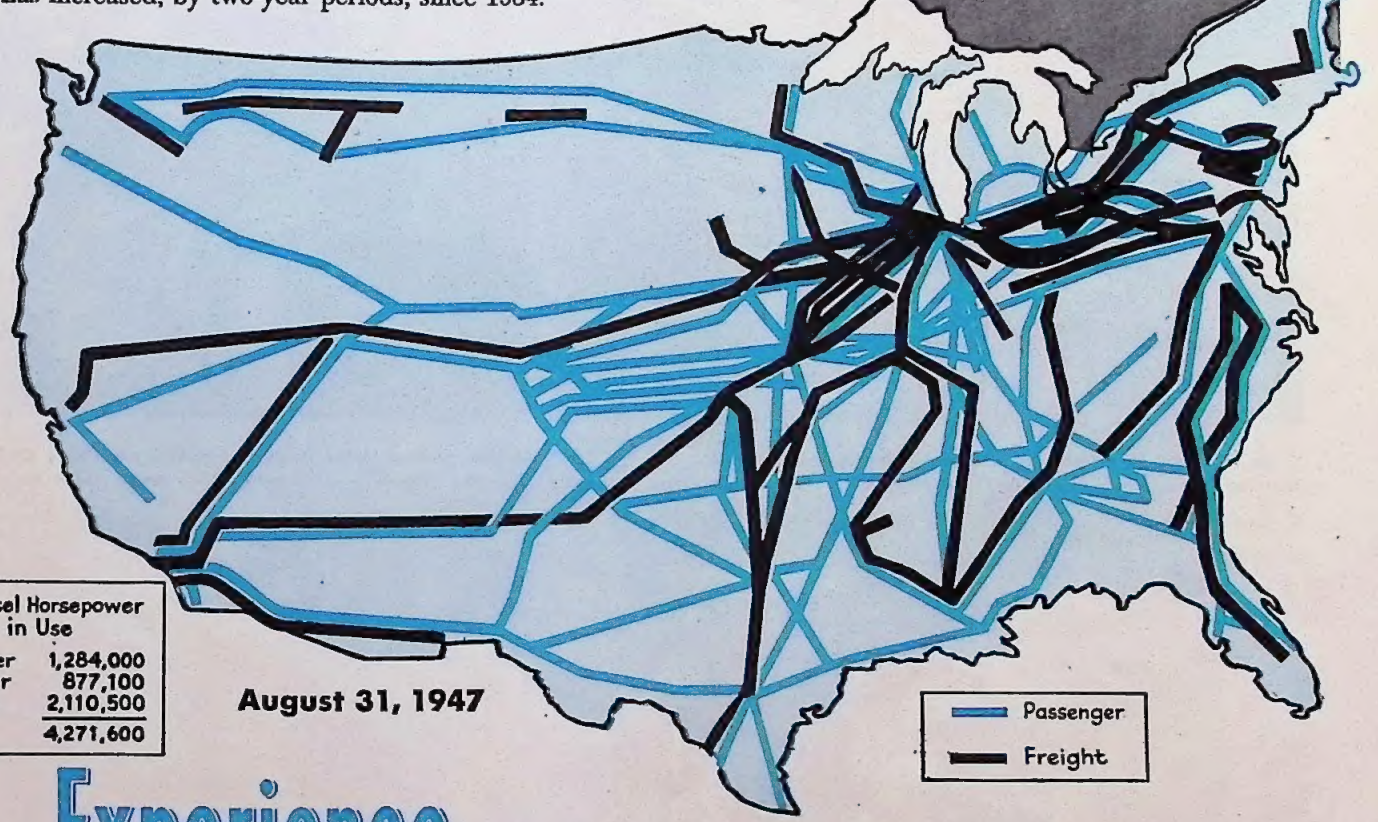



# Locomotives

## ALL OVER THE MAP

Rapid growth in use of General Motors Diesel locomotives is pictured here. The maps show how the mileage covered by these locomotives in regularly scheduled daily service has increased, by two-year periods, since 1934.




| GM Diesel Horsepower in Use | |
|---|---|
| Passenger | 1,284,000 |
| Switcher | 877,100 |
| Freight | 2,110,500 |
| | 4,271,600 |

# Experience — THE PRICELESS ASSET

### GENERAL MOTORS DIESEL LOCOMOTIVES:

- Since 1940 have hauled more than 350 billion gross ton-miles of freight in the nation's severest service.
- Since 1934 have handled more than one and three-quarter billion passenger train car miles, chiefly on the most difficult schedules.
- GM passenger locomotives operate today on schedules calling for more than half a billion passenger train car miles per year.
- GM freight locomotives operate today on assignments calling for more than 100 billion gross ton-miles per year.
- Of General Motors Diesel locomotive units in high-speed passenger service in all parts of the country:

**180 have covered more than ONE MILLION MILES**
**24 have covered more than TWO MILLION MILES**
**5 have covered more than THREE MILLION MILES**

The oldest of these locomotives is thirteen years of age. General Motors locomotives are at work for 100 railroads and industries.

GENERAL MOTORS LOCOMOTIVES

ELECTRO-MOTIVE DIVISION
GENERAL MOTORS • LA GRANGE, ILL.

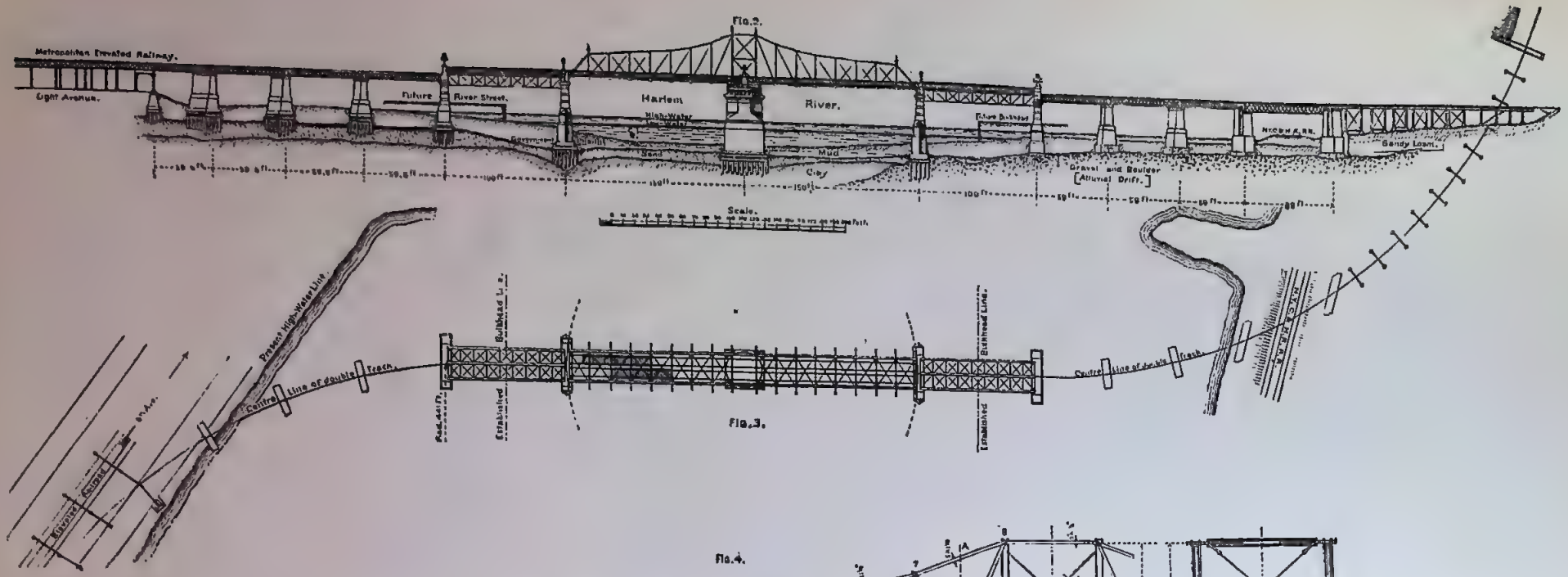
W. W. Stewart.

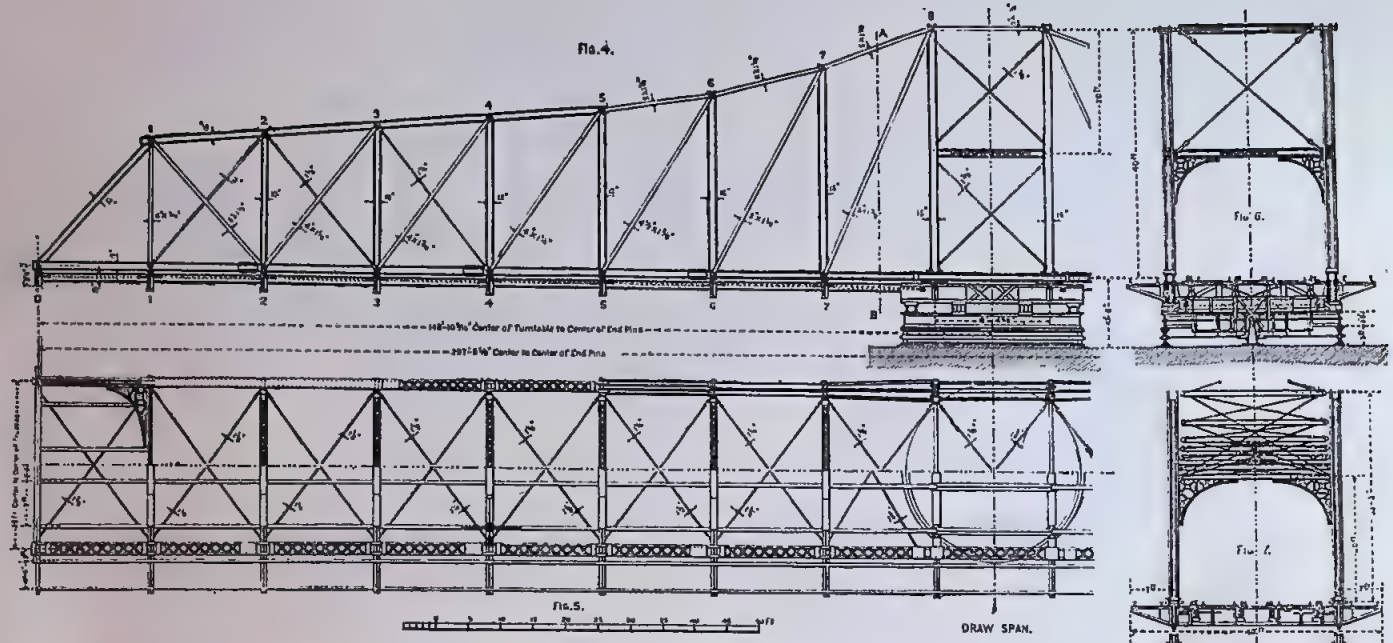
**Santa Claus goes by train in New Zealand. During the depression, Otahuhu Railway employees made toys at Otahuhu Shops in their spare time, then took their families to the shops on a special train for a Christmas party. The 1932 train↓ is at Remuera; 1933 train↑ is at the shops.**

W. W. Stewart.

# *Putnam Bridge*

In 1881 the New York City & Northern, now NYC's Putnam Division, built an extension south from its High Bridge terminal to the 155th Street elevated station. This Putnam Bridge over Harlem River was the biggest part of the project, built as the West-side & Yonkers Ry.




THE HARLEM-RIVER BRIDGE [WEST-SIDE & YONKERS RAILWAY] AT EIGHTH AVENUE, NEW YORK.

ALFRED P. BOLLER, *Chief Engineer*; CLARKE, REEVES & CO., AND SMITH, RIPLEY & CO., *Contractors*.

# Toward Boston via Manhattan Elevated

*When* the Harlem River bridge, now known as the Putnam Bridge, was opened to traffic on May 1, 1881, it connected the northern terminal of the Manhattan Elevated at 155th Street and 8th Avenue, New York, with the New York City & Northern Railroad at High Bridge on the east bank of the river. The 1-mile connecting line over the bridge was incorporated as the West Side & Yonkers Railway, which the New York City & Northern operated on a lease, then bought.

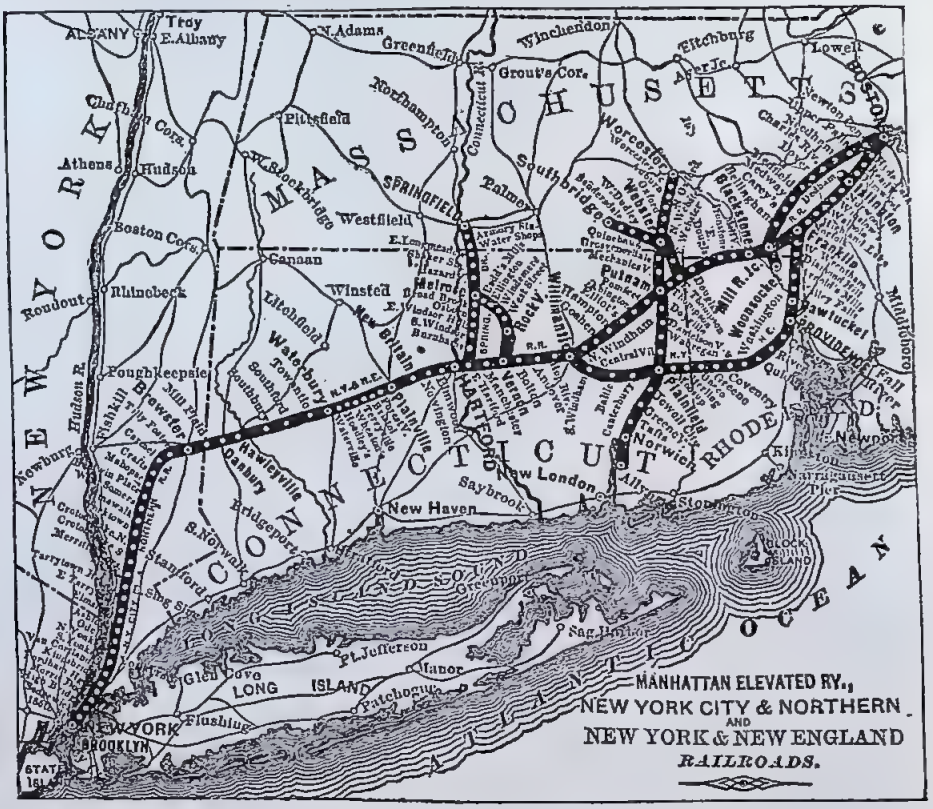
The New York City & Northern ran northward 54 miles to connect with the New York & New England at Brewster.

High Bridge was a popular resort named for the stone aqueduct which still carries some of the water supply across the Harlem River valley for the spigots of New York. The aqueduct can be seen in the left background of the photograph on page 11, which was taken shortly after the bridge was opened to traffic, long before the el was electrified. The roadbed of the New York Central & Hudson River Railroad, now NYC, is barely discernible on the far bank.

After the Putnam Bridge was opened to traffic, the NYC&N found it profitable to operate trains on 10-minute headway from the 155th Street elevated station to High Bridge. The fare was 5 cents.

The Putnam Bridge contains a 300-foot swing span, the largest double-track draw span in the world at the time of its construction. Plans of the bridge and a track diagram are printed on page 12.

Today the New York City & Northern is the Putnam Division of the New York Central, and the New York & New England is part of the New York, New Haven & Hartford. The IRT Division of the New York City Transit System runs a shuttle service between the 155th Street station of the Independent Grand Concourse subway to the 167th Street station of the IRT Jerome Avenue subway, crossing Putnam Bridge and tunneling through the hill at the right of the picture on page 11.




**The New York City & Northern's listing in an 1884 "Official Guide" carried this map of the Manhattan Elevated Railway, the New York City & Northern, and the New York & New England.**

**A New York Central freight train scurries northward on the Putnam Division 7 miles north of High Bridge. This is the old New York City & Northern.**

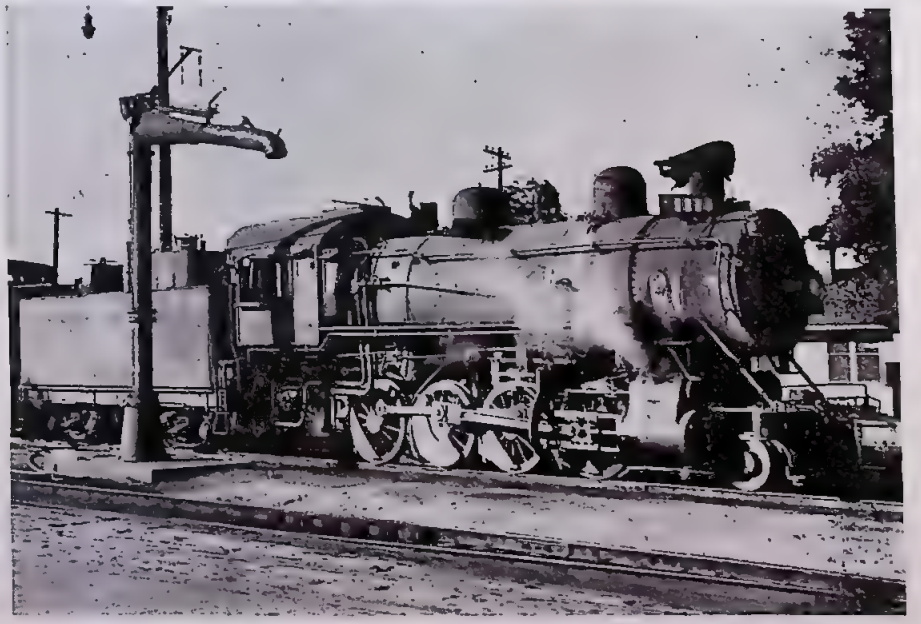
R. P. Morris.

# UP's Scenic Idaho Northern Branch

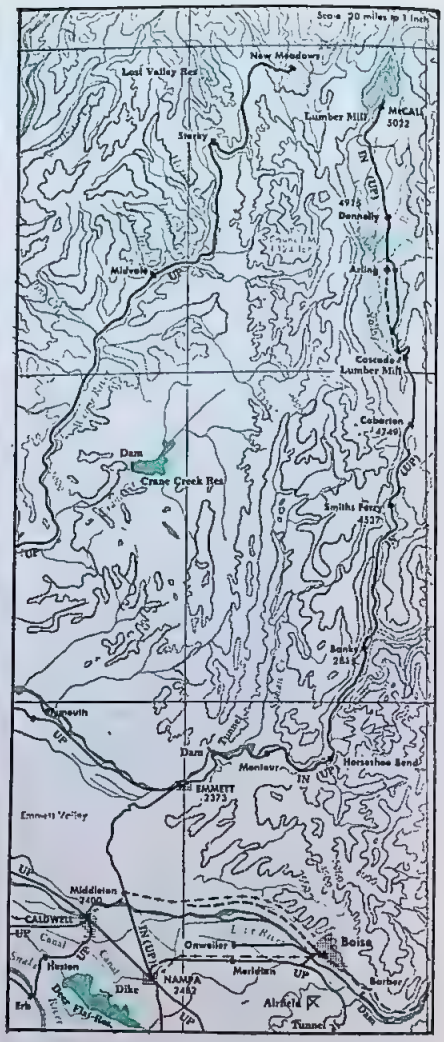
**Whether you want scenery, mountain railroading, or just plain human interest, this 133-mile feeder line in western Idaho has them all**

**PHOTOS BY H. R. GRIFFITHS**

The Idaho Northern branch of the Union Pacific takes its name from the old Idaho Northern Railway which the UP leased along with the Oregon Short Line. It should not be confused with the abandoned Idaho Northern Railroad, once also a part of the UP through lease of the Oregon-Washington Railroad & Navigation Company. Both the rail*way* and the rail*road* operated as separate companies in 1910. The *road* was taken over by OWR&N in 1911 and the *way* became part of the OSL in 1913. The original Idaho Northern Railway extended from Murphy through Nampa to Emmett. UP extended the line north to McCall and made Nampa the southern terminal. Nampa to Murphy is now a freight branch.



**The Idaho Northern is an important UP feeder line. It serves an area rich in lumbering, mining, farming and cattle-raising, and the volume of traffic moved each year is very high. The daily-except-Sunday mixed train in each direction handles passengers, express and mail as well as freight, and extras are run to take care of seasonal rushes such as cherry crops or cattle ready for the eastern markets. Motive power is supplied by several classes of Consolidation (2-8-0) engines. No. 759→ of the 700 class was built by Baldwin between 1902 and 1907. Some trains are double-headed↗ out of Nampa, where the branch joins the UP's main line to Oregon. Train 385← follows Consolidation No. 622 up a heavy grade out of Banks, 64 miles from Nampa. The train consists of 11 cars and its speed is 10 miles an hour. Extra 587↘ is northbound out of Nampa with 67 cars, mostly empty reefers to be loaded with produce from Emmett Valley. The trainload of logs↓ is on a siding at Emmett, waiting to be switched to a lumber mill. Lumber products constitute a good share of the total traffic on the scenic Idaho Northern.**

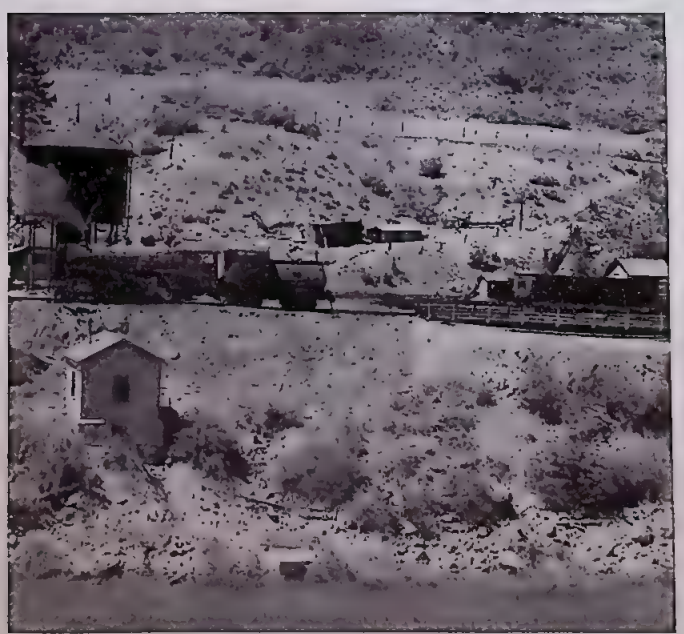



The Idaho Northern branch runs 133 miles from Nampa northward to McCall↑. Fertile Emmett Valley↖ is famous for its cherries and other agricultural products. Smoke marks the town of Emmett. Black Canyon Dam↖ furnishes water and electricity for the valley. The railroad skirts the dam at extreme right of picture. Train↙ is in Payette River Canyon near Horseshoe Bend. Snow↓ blankets the canyon in winter.

The northbound approach to Banks is made on an easy grade in Payette River Canyon (↑top). The real grades begin at Banks station, where a switcher↑ is shifting cars on train 386. Besides a water tank and turntable↓, Banks has a fueling station and other engine maintenance facilities. Following a forest fire blamed on an engine spark in 1941, the UP replaced coal-burning engines with oil-burners.

*Heaviest* grades on the Idaho Northern branch begin at Banks, 60 miles north of Nampa. For 19 miles the grade is 1.75 per cent, with stretches as steep as 3 per cent. It is a real thrill to see and hear a northbound train starting from the depot at Banks, especially when helpers are used. The engines — sometimes as many as three — get the train moving and slowly they blast their way up the 19 miles to Smith's Ferry. It is very beautiful along this stretch, as the train winds its way on a narrow roadbed high above the river in some places. Four miles out of Banks the rails cross the river on a high steel bridge and then ascend a grade that is over 3 per cent. At Smith's Ferry the grade lessens and the helpers are cut off to return to Banks. Above Smith's Ferry the canyon widens out into beautiful Long Valley, almost a mile above sea level and surrounded by high mountain ranges which have snow on them the year around. When winter comes, railroading becomes especially difficult between Banks and McCall. Snow reaches an average depth of 4 to 5 feet, and it takes a lot of effort to keep the line open. Rotary plows are pressed into service early in the season and are kept busy most of the time. In 1936 the line was snowbound.

The village of Banks (↑top) hugs the Payette River deep in the canyon. Southbound trains usually pick up several cars of logs here for the sawmill at Emmett; northbound trains pick up other log loads for the mill at Cascade. Northbound train 385 sometimes meets↑ southbound 386 at Banks. Train 385 crosses the high steel bridge ↓ north of Banks without a helper. This particular train carried only 11 cars.



Sixty empty cattle cars↖ wind along the river on the heavy grade between Banks and Smith's Ferry, consigned to the cattle ranches of Long Valley. Extra 621← is a 1938 "ski train," pictured at McCall after a 24-hour trip over 129 snow drifted miles from Nampa. The train followed a rotary plow all the way and was aided by another engine. McCall is a resort and lumbering town at the south end of Payette Lake, and the northern terminal of the Idaho Northern branch. Scenery along the Payette River↙ is especially beautiful under a cloud-swept sky, as in this picture taken near Smith's Ferry. The train is southbound. Long Valley↓ produces thousands of cattle every year for eastern markets; they go over the Idaho Northern branch to Nampa for transshipment over Union Pacific's main line to Chicago.

This bungalow-like structure↑ is the station at McCall, and the signboard says it is 5022 feet above sea level, 2540 feet higher than Nampa. The railroad rises an average of about 19 feet per mile for its entire 133 miles. The ruling grade of 2.5 per cent makes the going especially tough in winter, when rotary plows must cut through deep snowdrifts. This plow→ is the one which preceded the "ski train" shown on the opposite page. The picture was taken at Donnelly, 14 miles south of McCall, on February 13, 1938. Beautiful Payette Lake↘ is a popular resort area the year around with residents of southern Idaho and Oregon because of its many recreational activities. These include swimming, motorboating and fishing in the summer, and skiing and other cold weather sports during the winter season.

The Idaho Northern branch of the Union Pacific only recently grew 4.15 miles. This was due to a track relocation between mileposts 99.7 and 109.1 to make way for a 700,000 acre-foot reservoir which will be impounded upstream from a new dam now under construction by the Bureau of Reclamation in the narrows of the North Fork of the Payette River, just west of Cascade. The relocation is shown in the map on page 16, together with the area which will be inundated. Arling station was also relocated. Operation over the new line began July 3, 1947. Before relocation, the branch was 129 miles long; now it is 133. The ride from Nampa to McCall and return makes an interesting two-day trip but cannot be made on a week end; trains do not run on Sunday.

# Better service, lower fares

## Central of Georgia makes an experiment and finds new trains, improved schedules and low round-trip rates attract new customers to the railroad

BY CHARLES LAYNG

*Until* a few months ago the Central of Georgia was faced with a rapid and progressive decline in passenger revenues, a trend that started in 1943. More than two years ago the railroad ordered two new streamlined trains in the hope of bringing in new business, or at least of arresting the decline. Had it received prompt delivery of the new equipment, it perhaps would have found it unnecessary to do more than provide improved service. But delivery of the trains was not made until the middle of 1947, and by that time private automobiles, buses and airplanes had absorbed much of the passenger travel.

The progressive officials of the Central of Georgia decided that streamliners were not enough in themselves to halt the downward trend of passenger income. They felt some additional incentive was needed to stimulate travel. So, against the general trend, they cut fares on Georgia intrastate round trips on all trains, including the two new streamliners. The experiment has been most successful and has *increased* revenues.

The new trains, the *Man o' War* running between Atlanta and Columbus and the *Nancy Hanks II* between Savannah and Atlanta, were both named after famous race horses. More than 50 years ago the original *Nancy Hanks* operated over the same route for several months. It was termed "the fastest train in the world" then, but the present train makes the run an hour faster.

Both new trains are powered with diesel locomotives. The *Man o' War* makes two 117-mile round trips for a total of 468 miles a day. It is scheduled at 3 hours for each of three trips and at 2 hours 50 minutes for the other. The *Nancy Hanks II* makes a 558-mile round trip daily, and is scheduled at 5 hours 40 minutes each way.

The following tables show how these trains are handling passengers:

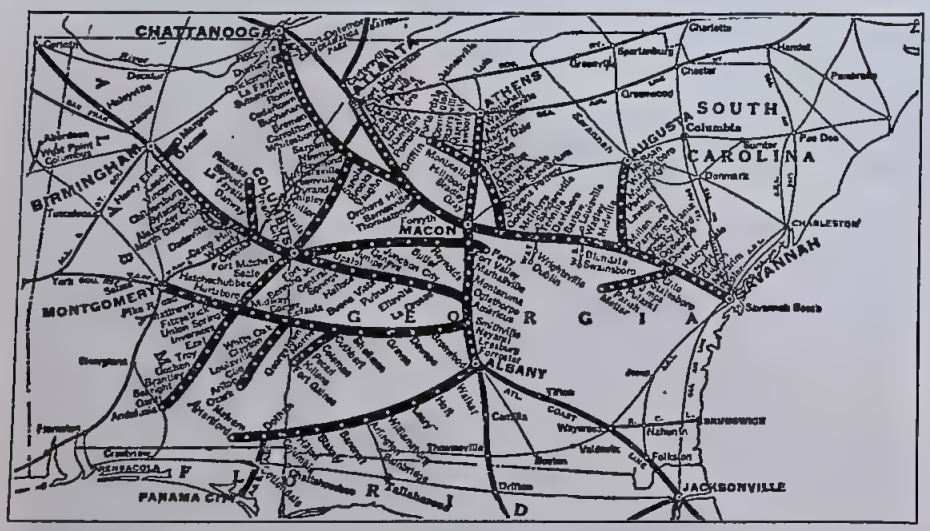
MAN O' WAR

| | Passengers | Daily Av. |
|---|---|---|
| First week | 3,133 | 447 |
| Second week | 4,016 | 580 |
| Third week | 3,261 | 466 |
| Fourth week | 3,585 | 512 |
| Fifth week | 3,221 | 460 |
| Sixth week | 3,504 | 501 |
| Seventh week | 3,985 | 569 |
| Eighth week | 3,680 | 526 |
| Ninth week | 4,102 | 586 |
| Tenth week | 4,407 | 629 |
| Total | 36,939 | 528 |

NANCY HANKS II

| | Train 107 | | Train 108 | |
|---|---|---|---|---|
| | | Daily | | Daily |
| | Pass. | Av. | Pass. | Av. |
| First week | 1,269 | 181 | 1,201 | 172 |
| Second week | 1,482 | 212 | 1,449 | 207 |
| Third week | 1,722 | 246 | 1,646 | 235 |
| Fourth week | 1,850 | 264 | 1,750 | 250 |
| Fifth week | 1,997 | 285 | 2,007 | 287 |
| Sixth week | 2,258 | 322 | 2,133 | 305 |
| Seventh week | 2,507 | 358 | 2,479 | 354 |
| Total | 13,085 | 287 | 12,665 | 258 |

It is significant that little of this gratifying traffic has been taken away from other trains. The *Man o' War* replaced existing trains, so its increased business



Nancy Hanks II approaches Terminal Station, Macon, Ga., on its exhibition run July 9. It is now in regular service and has more cars.

Walter M. Pharr.

is all gravy. The *Nancy Hanks II* has taken some business away from another morning train from Savannah to Atlanta, and also from a night train in both directions between these points, but the real test is in the number of passengers and the revenue on all Savannah-Atlanta trains today as compared with previous traffic. On both counts, large increases are shown. Peculiarly, traffic on the *Nancy Hanks II* is about equal in both directions. During its first month of operation it handled 7160 passengers eastbound and 6948 passengers westbound. The *Man o' War* began operations on June 24 and the *Nancy Hanks II* started a few weeks later.

The Central of Georgia is the first railway in the country to offer improved service at reduced rates. It would be difficult, if not impossible, to find any other company in any line of business in this day and age that is offering vastly improved service and considerably reduced prices. Last spring the Central reduced round-trip coach rates within the boundaries of Georgia, and the new rates apply to these streamliners since only coach fare is charged. The round-trip rate is based on the one-way fare, plus 20 per cent. If the one-way fare is $5, the passenger can get a round-trip ticket for $6.

When they ordered these trains from the builders, Central officials thought that a baggage-chair car, two chair cars and a tavern-lounge would handle all possible business on the *Man o' War*. On more than half the runs now, one or two more cars have to be added. The *Nancy Hanks II* started out with a baggage-chair car, a partitioned chair car, a chair car and a grill-lounge. Right off, it became necessary to increase this consist to five cars every day and six or seven on week ends. Fortunately, the order for these trains included an order for six extra coaches which were intended for use on other trains. These are now used on the streamliners.

The new trains are beauties. *Man o' War*, built by Budd, is of stainless steel. *Nancy Hanks II*, built by American Car & Foundry Company, is painted blue and gray. Both have many desirable features not found in streamliners built before the war, and of course they are a far cry from the old "standard" equipment.

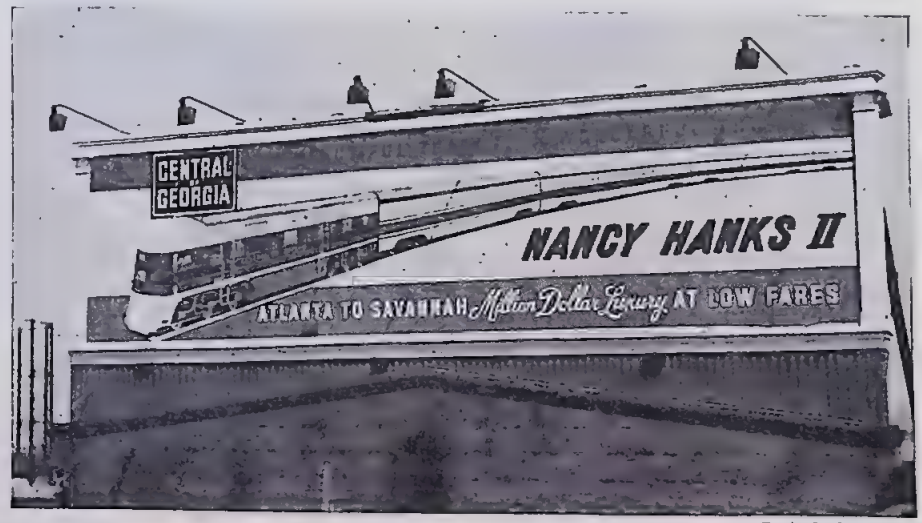
*Officials* of the road found they had three essential factors for attracting passengers: beautiful, smart new trains; convenient schedules; reduced fares. All of these, though, were of little moment unless they were called to the attention of the public. This was and is being done skillfully. The locomotive and car builders supplied publicity talent, and the Central's advertising agency did a splendid job and worked closely with the railroad's publicity men in producing attractive inaugural ceremonies. On top of this, every Central of Georgia officer and employee is intensely proud of the new trains, and their word-of-mouth advertising to increase the trains' popularity.

But the Central did more than authorize a liberal appropriation to advertise these trains. Numerous personal contacts were deliberately planned. Small committees of the Central's officers covered the route of each train some weeks in advance of their inauguration. They pepped up local officers and employees, and also called upon civic leaders of the communities. They gave these leading citizens authoritative advance information about the trains and invited them to attend the inaugural ceremonies.

The Central used a large amount of paid advertising in newspapers and on radio stations, but the inauguration of the new luxury trains at reduced rates was considered so newsworthy that both newspapers and radio stations were liberal with free space and time. Georgians are intensely patriotic, and the fact that these trains are "Georgia's own" was much publicized.

The promotion worked. Thousands of Georgians visited the trains and later began riding them. The Central and the car and locomotive builders all concocted attractive booklets for distribution to train visitors. A check disclosed that only a very small percentage of the booklets were thrown away.

Billboard advertising is also used. Two of the finest color-light "animated" signs in the country were erected in the most promising locations in Atlanta, and the city's night sky is literally dominated by these flashing invitations to board the Central's new streamliners.




Central of Georgia.

George R. Foltz.

Lane Bros. Photo News Service.

**Signboard→ advertises Nancy Hanks II to Atlantans. A large crowd attended her christening↓. Nancy meets Man o' War↘ near Atlanta.**

# Rebirth of a railroad

**Rock Island reduced grades and curves and modernized its equipment, and in 10 years changed from an impoverished railroad to a leader of the industry**

BY WILLARD V. ANDERSON*

When the new *Golden State* goes into service early in 1948, it will run from Chicago to Tucumcari, N. Mex., over one of the most modern roadbeds in the country on the Rock Island portion of the Golden State Route. It will speed around curves designed for 90-miles-an-hour velocity, and up grades which rise only 6 inches in 100 feet of travel. It will be protected by automatic block signals all the way, by cab signals part of the way, and will benefit from centralized traffic control on much of the 1109-mile run.

No eastbound grade exceeds 0.5 per cent between Dalhart, Tex., and Chicago, and few curves are sharper than 1 degree, thanks to a far-sighted and well-integrated improvement program begun in the thirties. This program consisted of a number of individual improvement projects which not only solved local difficulties but also fitted together to make the Chicago-Tucumcari main line a high-speed race track for passenger trains as well as an economical route for heavy-tonnage freight trains. The heavy movement of traffic is eastbound. The few westbound grades exceeding 0.5 per cent are unimportant because of the direction of heavy traffic.

Each project has produced savings in operating costs that have been impressive. Lumped into a total for all projects, the savings have been tremendous. Each of the projects has helped to finance the next. Together, they have helped to make the Rock Island an aggressive competitor of the Burlington, Santa Fe, and Union Pacific. Ten years ago it was a different story. The Rock Island was limping along with outmoded equipment on an outdated roadbed, and it was all the railroad could do to hang on.

Such a change in the very character of a railroad does not just happen all by itself. It is the result of fine management — the result of careful studies and planning, and the making of great decisions.

Back in 1935, when the railroad was short of cash and business conditions were poor, the courts appointed E. M. Durham Jr. as chief executive officer. The next summer J. D. Farrington was made chief operating officer and W. H. Hillis became engineer of maintenance of way and structures. Then things began to happen. Many of the older operating men were replaced with younger men; studies were prepared and plans made to improve both the property and its operation. In 1942 Mr. Durham retired; Mr. Farrington was appointed chief executive officer and Mr. Hillis was appointed operating officer.

An interesting incident developed not long after Mr. Farrington came on the property. On one of his inspection trips he observed that heavy locomotives pulling northbound freight trains into Manly, Ia., were cut off and lighter engines substituted. This required switching out a substantial number of cars in order to reduce tonnage to that which could be handled by the lighter engines. He inquired as to why this was necessary and was informed that the bridge rating north of Manly was not sufficient to accommodate the heavy power being operated into Manly from the south. Further investigation developed that only one bridge was involved and that it would cost approximately $1700 to strengthen this structure to meet the required rating for the heavy locomotives. It is needless to say that the bridge was promptly strengthened and substantial returns were immediately realized on the expenditure. It also expedited the movement of traffic.

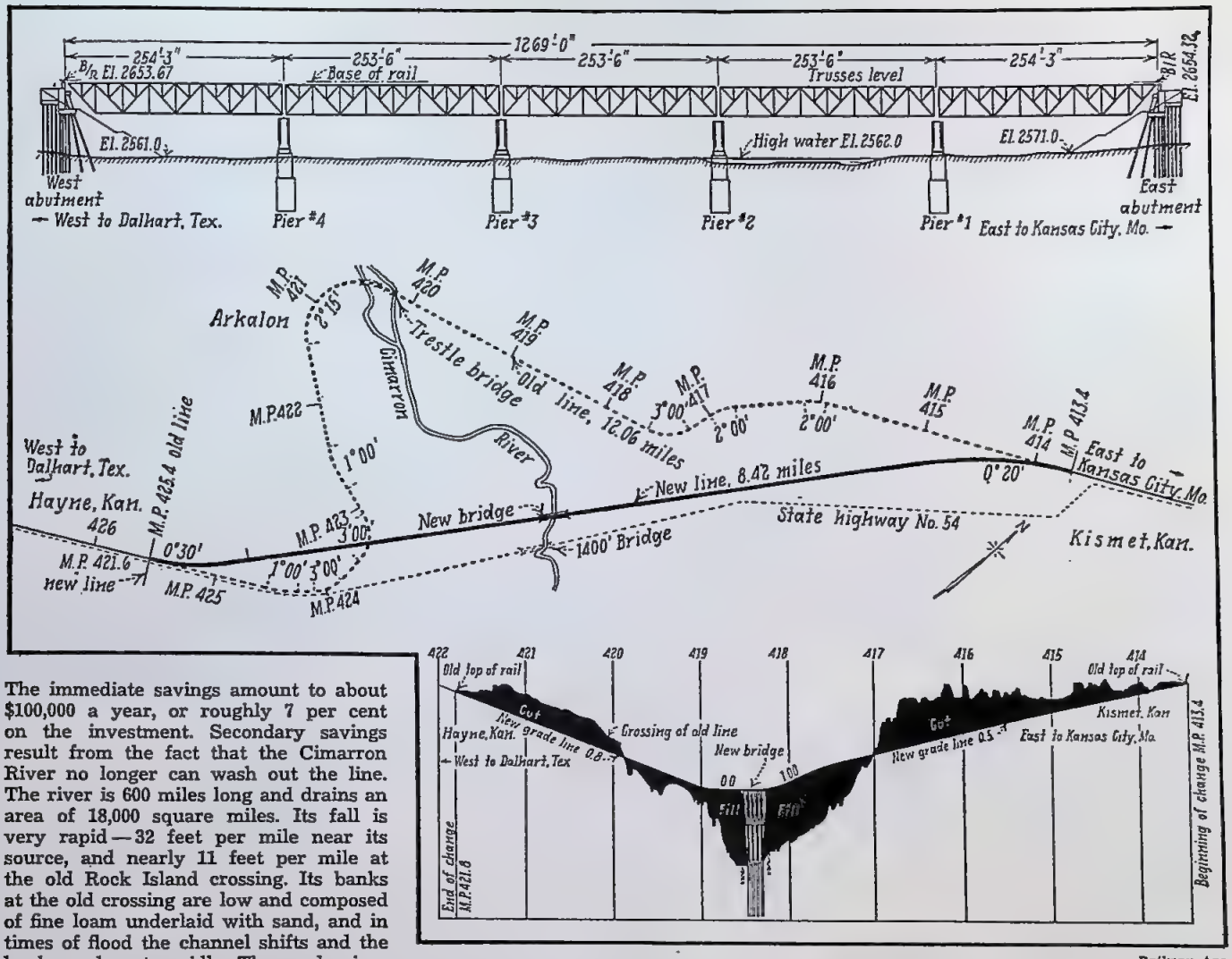
The story of the Rock Island's physical comeback really begins with the building of the Arkalon Cutoff between Kismet and Hayne, Kan. This project involved the construction of 8.42 miles of straight new line to by-pass 12.06 miles of winding, undulating old line. It included the construction of "the Samson of the Cimarron," a huge steel deck truss bridge across the temperamental Cimarron River. This bridge is one of the largest on the Rock Island system; it is 1269 feet long and 97 feet above the river bed. The five 250-foot truss spans are supported on reinforced concrete piers and abutments. To protect the long fill approaches to the bridge, floodwater dikes surfaced with steel sheet piling and concrete slabs were built upstream.

The cost of this project was $1.4 million.

*Many of the facts and figures in this article are from an address delivered before the Chicago Chapter, Railway & Locomotive Historical Society, by David A. Hill, Chicago investment counselor.

The "Samson of the Cimarron" as seen from the river's floodlands. It took 2,831,000 cubic yards of earth to construct the two huge approach fills.

Rock Island.




Railway Age.

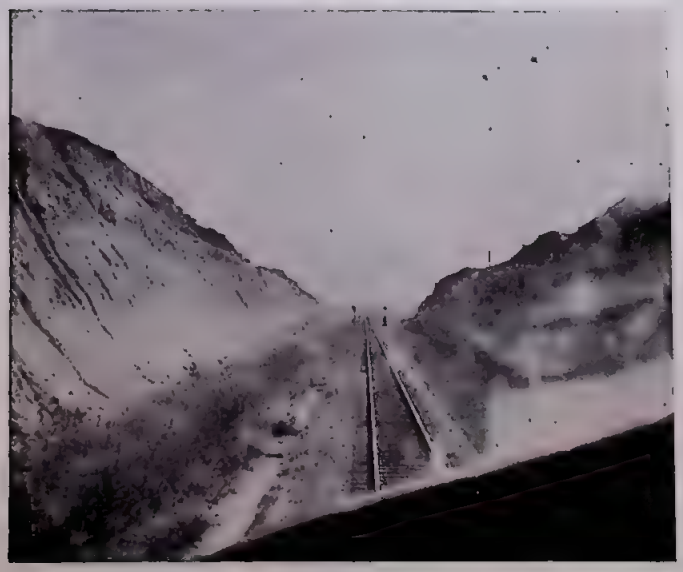
**Cimarron River Bridge elevation, sketch map of the Arkalon Cutoff, and profile of the new line**

The immediate savings amount to about $100,000 a year, or roughly 7 per cent on the investment. Secondary savings result from the fact that the Cimarron River no longer can wash out the line. The river is 600 miles long and drains an area of 18,000 square miles. Its fall is very rapid — 32 feet per mile near its source, and nearly 11 feet per mile at the old Rock Island crossing. Its banks at the old crossing are low and composed of fine loam underlaid with sand, and in times of flood the channel shifts and the banks undercut rapidly. The sandy river bottom becomes saturated to such an extent that it loses its stability and bearing power to a considerable depth.

Storms of cloudburst intensity in the Cimarron valley frequently cause devastating floods which move as rapidly as 200 miles a day. The Rock Island was constantly digging into its pocket for bank protection, channel changes, and repairs to its tracks before it built the Arkalon Cutoff. Now it doesn't have to.

The cutoff line leaves the old line at Kismet and extends southwest directly across the river valley to rejoin the original main line near Hayne. It is tan-

**Dirt for bridge approaches was taken from deep cuts approaching river.**



**Passenger's view from Cimarron Bridge. River is normally only a trickle.**

Both photos, Willard V. Anderson.

gent the entire distance except for 7524 feet of 20-minute curvature at the extreme east end and 4860 feet of 30-minute curvature at the extreme west end. The river is spanned about 2 miles downstream from the old crossing.

The old line descended into the valley on long 0.8 per cent grades which required pusher service on eastbound movements. The new line has a ruling grade of 0.5 per cent eastbound, doing away with the pushers, and the westbound grade was shortened although it remains at 0.8 per cent. It is not, however, the ruling westbound grade. Eastbound trains leave the bridge on a short 1 per cent momentum grade which does not affect operation. This improvement was completed in 1939 and was hailed by railroad men all over the country as a marvel of engineering skill.

The old line between Mercer and Mill Grove, Mo., contained a maximum grade of 1.58 per cent and a curve of 6 degrees. The grade alone was enough to limit tonnage to 1650 tons behind a 3000-horsepower locomotive. The Rock Island spent $2,019,000 to by-pass 16.38 miles of old line with 15.1 miles of new, and produced a modern railroad with a ruling grade of 0.5 per cent and a maximum curvature of 1½ degrees.

Now the railroad can run passenger trains over this section at 90 miles an hour. The old speed limit was 40. A 4500-horsepower locomotive can handle 6300 tons instead of the former 2400. At present the Rock Island uses 4050-horsepower locomotives, but the mathematical ratio is just the same. Helpers used to be needed to push freight trains over the hump, but now the road locomotive can do the job alone.

The annual saving in operation cost is estimated to be $175,000, or 8.7 per cent on the investment. And you will note that the two projects so far described make an annual saving of $275,000.

The Mercer-Mill Grove line change benefits not only the traffic flowing between Chicago and Kansas City, but also the traffic between Kansas City and St. Paul. Thus with one project the railroad in effect improved two separate routes.

Another line change was made between Eldon and Perlee, Ia., involving 20.74 miles of new construction which shortened the distance 1.95 miles. It resulted in a maximum grade eastbound of 0.5 per cent; westbound, 0.6 per cent. The old line had a maximum eastbound grade of 1.63 per cent. Curvature was reduced from 4 degrees to 1½ degrees. A locomotive that could handle only 2250 tons before can now handle 6300 tons, and passenger trains can operate at 90 miles an hour instead of 55. This project cost about $2½ million, and its estimated annual savings of $360,000 amount to 14 per cent on the investment.

Heavy war and postwar traffic actually produced annual savings far in excess of the figures given here; they are based on a level of traffic similar to that of 1941.

The railroad built a new line 18.13 miles long between Centerville and Paris, Ia. This included a large steel bridge over the Chariton River as well as two smaller steel bridges. It shortened the distance 3.87 miles and reduced the maximum operating grade from 1 per cent to 0.5 per cent. Maximum curvature was reduced from 4 degrees to 1 degree, and total curvature was reduced from 813 degrees to 82 degrees. The speed restriction was lifted from 55 miles an hour to 99. The project cost $2.7 million and produces a saving of $413,600 every year, or 15 per cent on the investment.

So far the aggregate annual savings exceed $1 million, so the Rock Island is a class 1 railroad on savings alone! As a matter of fact, by the end of this year the railroad will be saving approximately $2½ million a year as compared with 1937.

The new line between Centerville and Paris had hardly been placed in operation late in 1945 before another project was started immediately to the east, between Paris and Floris, Ia. This 16.4-mile segment shortened the distance 1.43 miles reduced the 1.4 per cent eastbound grade to 0.5 per cent, and reduced curvature from 4 degrees to 1½ degrees. The tonnage rating has been doubled, and passenger trains can negotiate the new line at 90 miles an hour. This project cost $1,882,910, and resulted in an annual operating saving of $267,000 — 22 per cent on the investment.

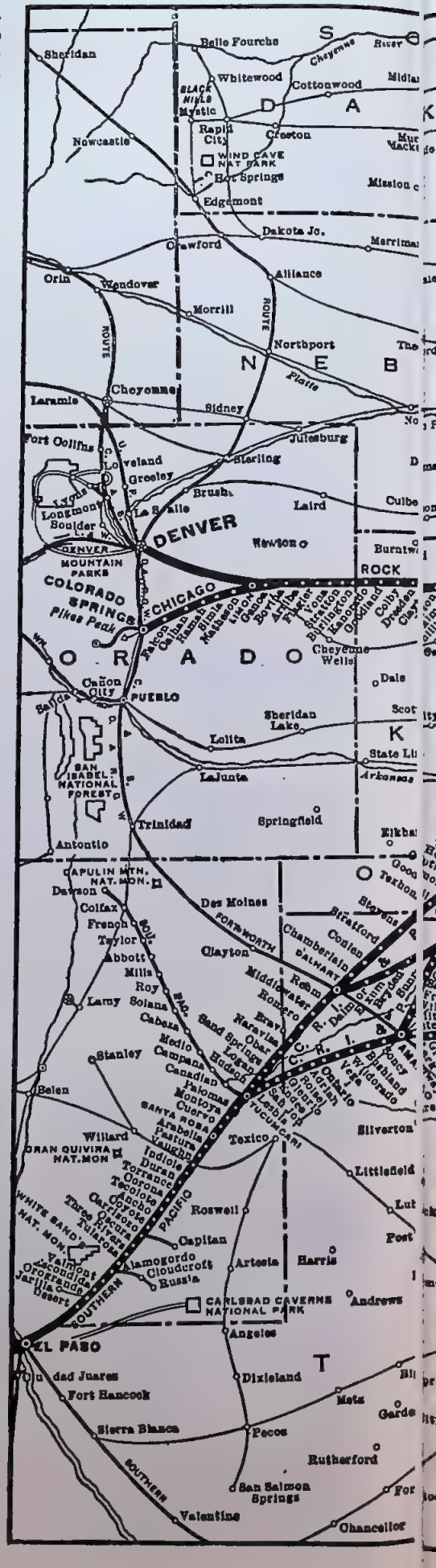
Most recent of the line improvements is the 17.21-mile project between Ainsworth and Brighton, Ia., placed in service last August. This new line by-passes Washington, but does not isolate it, as the eastern part of the old main line was retained for freight service and a new passenger station was built on the new line. This station is called South Washington.

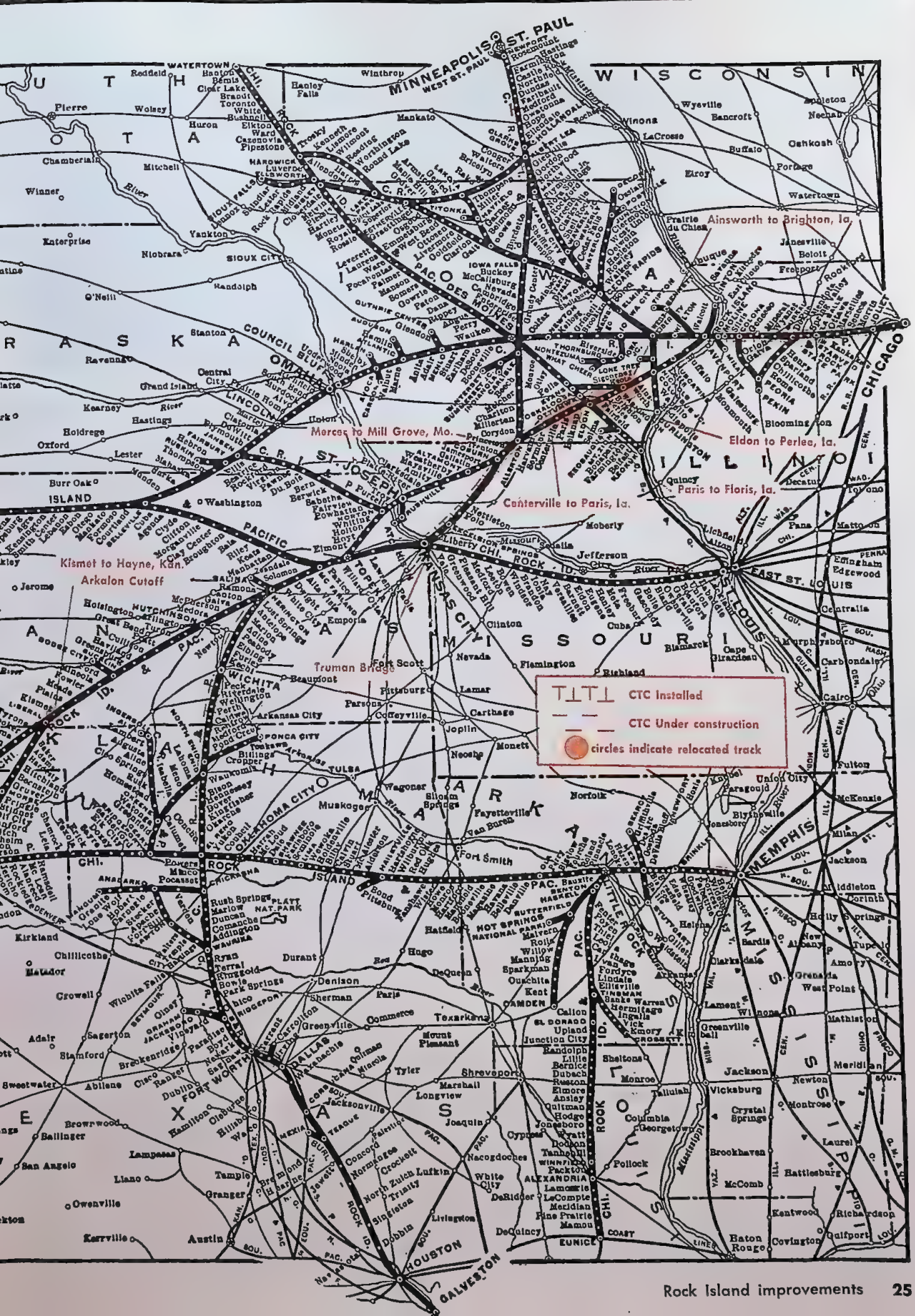
The new line shortens the distance 3.67 miles and eliminates some of the most troublesome curves on the railroad. Estimated savings will amount to 15 per cent of the investment, or $460,000.

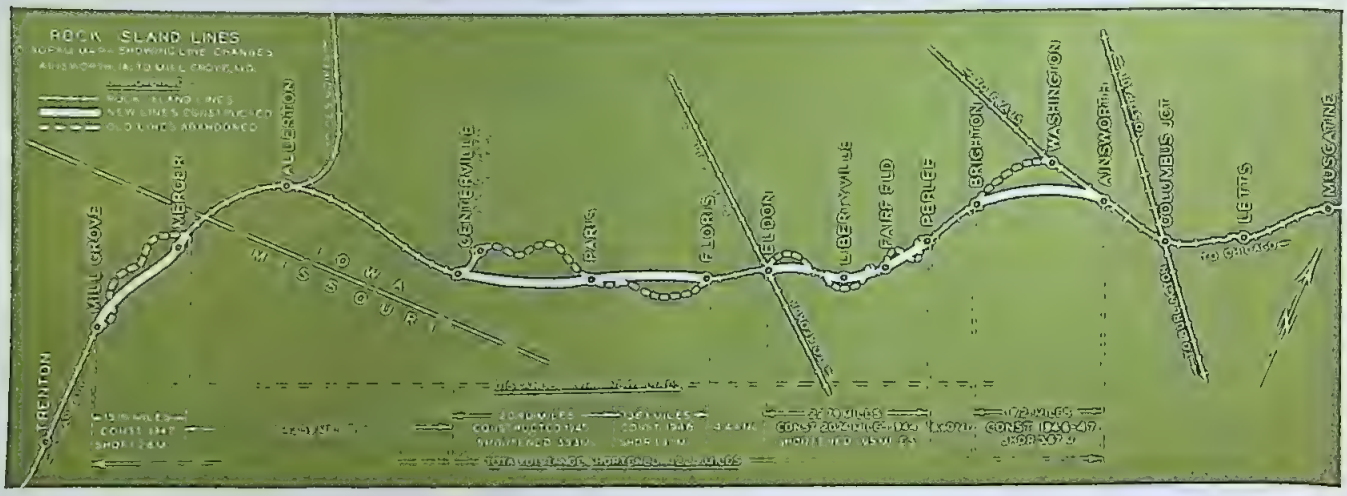
The five projects in Missouri and Iowa shortened the distance between Chicago and Kansas City by 12.2 miles. Now, you might ask, what happens to the mileposts along the line? Let F. W. Thompson, Rock Island's chief engineer, give the answer:

"The chief purpose of mileposts is not only to measure mileage but also to identify points along the line. Bridges and other structures, for instance, are given numbers corresponding to the mileposts; bridge 2988 is 0.8 mile from milepost 298 and 0.2 mile from milepost 299. For all practical purposes it makes little difference if the actual distance between mileposts is an accurate mile. Anyone looking for bridge 2988 would find it between mileposts 298 and 299.

"In our relocation program we have continued to use the original mileposts and will continue to do so until we are quite certain no more changes will be made in the line for some time to come. At present, for instance, the new line from Mercer to Mill Grove, Mo., starts at milepost 382.30 and runs to milepost 397.40, where it rejoins the old main line. But on the old line this point was known as milepost 398.68. Therefore we installed new mileposts on the new right of way, continuing on from milepost 382 east of Mercer to milepost 397 east of Mill Grove. We skipped 398 and continued to use the old 399. The actual distance between




Ainsworth to Brighton, Ia.
Mercer to Mill Grove, Mo.
Eldon to Perlee, Ia.
Paris to Floris, Ia.
Canterville to Paris, Ia.
Kismet to Hayne, Kan.
Arkalon Cutoff
Truman Bridge
CTC Installed
CTC Under construction
circles indicate relocated track




milepost 397 and milepost 399 is 0.72 mile."

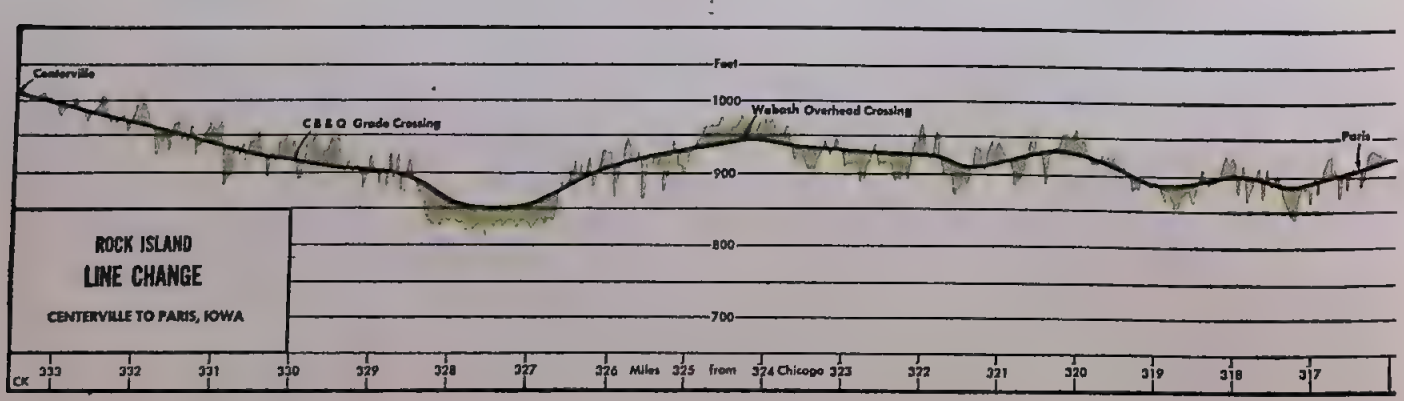
Suppose the road had replaced all the old mileposts from 382 on. It would have had to renumber all the bridges, signals, and other structures all the way. Then, when the line relocation was made between Perlee and Eldon, it would have had to renumber all mileposts and structures from milepost 267 on, for it shortened the line 1.9 miles in this section. And it would have had to do the same thing every time it shortened the line to the east.

You can imagine what confusion this would cause both in the engineering department and in the operating department. The engineers would have to change all their blueprints, the operating department would have to change all its employees' timetables, and maintenance crews would have to carry a revised book of structure numbers at all times.

Eventually, of course, new mileposts will be put in to conform with the new mileage. In the meantime, it's much less confusing to use the old ones.

As far as tariffs are concerned, whenever shortened mileages add up to enough to make a difference in the rate charged shippers, the shippers get the benefit of the new mileage regardless of mileposts. And if the Rock Island were the shortest line between Chicago and Kansas City — it isn't the shortest, but if it were — all railroads offering service between Chicago and Kansas City would have to change their rates to conform to the shortened mileage.

The construction of 89.63 miles of line in Iowa and Missouri involved building 30 new highway bridges and 17 new railroad bridges. But these were not the only bridges the Rock Island has built in the past decade to improve its line. Besides the Cimarron River Bridge it also built a new steel bridge over Beaver Creek at Optima, Kan., and cooperated with the Milwaukee Road in building the $3 million Truman Bridge across the Missouri River. The Truman Bridge provides a much superior entrance to Kansas City and saves about 30 minutes in running



This bridge across a deep cut on the Ainsworth-Brighton cutoff is typical of the 30 new highway bridges over the Rock Island in Iowa and Missouri.

Both photos, Rock Island.

Blacktop roadbed near Centerville, Ia., ready for ties to be placed. Ballast is dumped betwen ties after rails are laid on the ties.

time. Before it was built, the Rock Island trains entered the Kansas City Union Station over the Kansas City Terminal Railway and were headed in the wrong direction, and had to be turned around before departure. Now Rock Island trains go straight through. The bridge at Optima was raised about 5 feet and eliminated the possibility of traffic interruptions in future floods. The raising of the bridge also reduced the grade at this point to 0.5 per cent.

Other bridges were strengthened on both the main line and secondary main lines to accommodate heavier power and to increase tonnage. This often permitted lengthening engine runs to two or three divisions, where formerly bridge limitations confined power to one division.

The bridge over the Iowa River near Columbus Junction, Ia., was rebuilt span by span. One new span was installed in place of an old one, which was taken out, rebuilt, then reinstalled. The new span was then used in place of another old span while it was rebuilt, and so on. The result is a very substantial rebuilding of the old bridge structure with hardly an interruption of the operating schedule.

To illustrate the benefits secured from this type of work, let's look at 10 selected sections of line. The strengthening of bridges on these 10 sections cost about $750,000. The annual saving in operating expense amounts to $330,000 or 44 per cent on the investment. In all, bridges in 30 districts were strengthened at a cost of more than $1½ million.

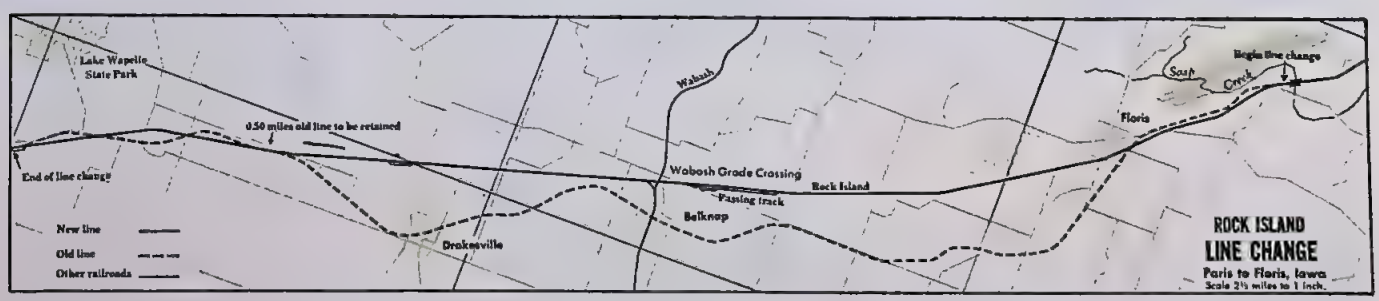
The total number of bridges on the system decreased from 5723 to 5365, which means that 358 bridges no longer require maintenance. In 1936 the road had 109 miles of bridges and 10 years later only 90 miles of bridges to maintain. The lineal feet of steel bridges was increased 6858 feet and the lineal feet of concrete bridges was increased 393 feet; untreated open deck wooden trestles decreased 5524 feet. Creosoted open deck trestles decreased 102,218 feet, or nearly 20 miles. The lineal feet of ballast deck bridges, where the fire hazard is greatly reduced, was increased.

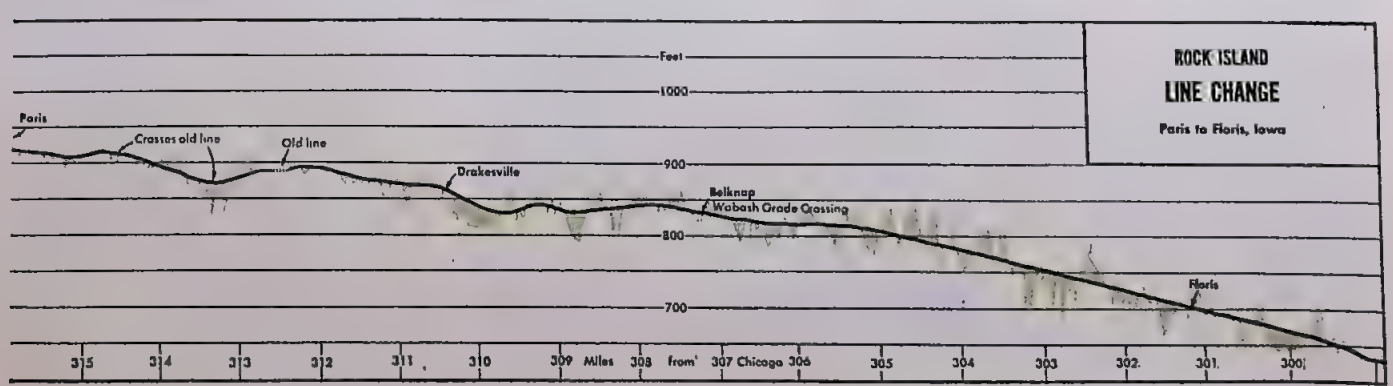
*During* the last 10 years, 2012 miles of new rail was laid in main track re-lays, and 1460 miles of re-lay rail was laid, or a total of 3472 miles. The Rock Island owns 4870 miles of mainline first main track, 2300 miles of branch-line first main track, and 430 miles of other main tracks. The railroad purchased 386,000 tons of rail during that period, and if we include track fastenings like tie plates, angle bars, bolts, rail anchors, etc., that represents an investment of some $28 million.

In addition, battered rail ends were welded, track and ballast gangs were mechanized, and the detector car runs over all main track annually.

New cross ties were inserted in the track — 11,345,000 of them. They were all pre-adzed, pre-bored, creosoted ties with a life expectancy of 30 years. Each tie represented an expenditure of about $2.25. The foregoing figures do not include switch ties; about 14 million board feet of such ties were installed.

It requires about 560,000 cubic yards of ballast annually to maintain the roadway in normal condition on the Rock Island. During the 10-year rehabilitation period 832,000 cubic yards of ballast was installed annually, which means that



Rock Island.

**The Rock Island crosses the Mississippi on this through truss bridge. Automobiles use lower level.**

Suter, Hedrich-Blessing, Ltd.

**↑This modern coffee shop lounge, named El Cafe, has been assigned to the new Golden State. It is modeled after the patio of an old New Mexico inn. ↓Rocky Mountain Rocket at Englewood, Ill.**

Ira H. Elgstl.

about 270,000 cubic yards annually was "improvement ballast," in addition to normal replacement.

Of the system about 7065 miles of track is ballasted — more than 92 per cent. Stone ballast is used on 690 miles, gravel on 2820 miles, granite on 460, chats on 1350 and slag on 470. Chats, the tailings of lead mines, make a fine ballast which is used where it will not wash out. The mineral content prevents weeds from growing and this ballast makes a smooth roadbed. In places where drainage is unsatisfactory, stone or slag ballast is usually employed.

Automatic block signals were installed on 1565 miles of line in the 10 years preceding June, 1947. The largest installation was between Herrington, Kan., and Tucumcari, N. Mex., on the Golden State main line. Studies indicate that the installation increased gross ton-miles per train hour 36 per cent, increased the average tons per train 15 per cent, and decreased running time 16 per cent. The Rock Island has used color-light searchlight signals on all its recent block signaling installations. Total mileage now block-signaled is 3028.

Centralized traffic control was installed on 488 miles. The largest such installation was between Blue Island and Morris, Ill., 97 miles, on double track. Other railroads have increased the capacity of single track by the use of C. T. C., but the Rock Island is one of the few roads that have had the foresight to install it on busy double-track lines. With signals facing in both directions, it permits one train to run around another; and when traffic is light in one direction and heavy in the other, both tracks may be used in the same direction.

A positive dispatcher controlled semi-automatic signal system was installed between Omaha and Limon, Colo., in which power switches are not used at present. If future traffic warrants the additional expenditure, this installation can be converted to full C. T. C. by adding power switches. This type of signaling was developed for use on medium-density lines that cannot support full C. T. C.

C. T. C. is being installed between Herrington, Kan., and El Reno, Okla., a distance of 231 miles. It is expected to cost about $750,000 and the estimated annual saving of $140,000 will represent a return of 18 per cent on the investment. Among other C. T. C. installations is one between Allerton and Eldon, where existing automatic signals will be converted to C. T. C. at a cost of only $27,300. The annual saving is estimated at $60,000, or 220 per cent on the investment.

Cab signals have been installed on locomotives operating over the Chicago and Rock Island divisions between Chicago and Rock Island. The Rock Island is a pioneer in other uses of electronics in railroading, and several experimental installations are now being tested on this railroad. They include radio communication with trains, yard radio installations, and devices that tell the operator when trains arrive at and depart from points as far as 100 miles away.

*Shops* and enginehouses have also been included in the modernization program.

The power for shops at 14 points was converted from steam to electricity, which permits the power plants to be shut down in warm weather when it is not necessary to heat the buildings. Modern machinery was installed at six points, roundhouse stalls and turntables were made longer to accommodate heavier locomotives, and facilities were installed for the care of diesel locomotives.

A new electric shop was installed at Silvis and two 150-ton cranes replaced old cranes of 50-ton capacity. The cranes provide a saving of 10 per cent on the investment. The consolidation of locomotive and car repair facilities at Cedar Rapids provides a similar return.

A new research laboratory was erected at 47th Street in Chicago. New car repair and coach servicing facilities, including a car washer, were also installed in Chicago.

During the period of rehabilitation, 111 steam locomotives were modernized: 18 of the 4000 class 4-8-2 passenger engines, 65 of the 5000 class 4-8-4's, and 28 K-27 Mikado freight locomotives. These were equipped with lightweight side rods, roller bearings, and other improvements which increased monthly mileages as much as 100 per cent. With friction bearings, the 4000 class turned in 7000 miles a month; with roller bearings these locomotives run 14,000 miles a month. Mileage of the 5000 class was increased from 5000 to 8500; mileage of the K-67 class was increased from 4200 to 8000.

Although the tractive effort was not increased, these modernized locomotives can handle heavier tonnage, they ride easier, and they can be operated at higher speeds.

Cost of repairing the 4000 class engines equipped with roller bearings is 28 per cent less than the cost of repairing the same engines with friction bearings. The savings in the case of the 5000 type amount to 29 per cent.

The Rock Island now has a fleet of 20 diesel-powered streamlined passenger trains. The new *Golden State* will operate between Chicago and Los Angeles on a 45-hour schedule, 3 hours faster than the present *Golden State*. The Rock Island also offers fine service between points that can hardly be considered competitive. The *Peoria Rocket* is an example of such service, running between Chicago and Peoria, Ill. Another example is the *Choctaw Rocket*, between Memphis, Tenn., and Amarillo, Tex. These trains have actually increased travel between the points they serve.

The *Peoria Rocket*, by the way, is the oldest Rock Island streamliner. It observed its tenth birthday September 19, on which date it had carried more than 2.3 million passengers in its 2.5 million miles of service. The *Des Moines Rocket* is only a week younger; it went into service on September 26, 1937. The most recent addition to the *Rocket* fleet of 20 trains is the *Corn Belt Rocket*, which began running between Chicago and Omaha on November 23, 1947. The *Corn Belt* leaves Chicago in the evening to arrive in Omaha in the morning, and leaves Omaha in the morning to arrive in Chicago in the evening. With the *Rocky Mountain Rocket* running on a daytime westbound and nighttime eastbound schedule, this gives Chicago-Omaha *Rocket* travelers their choice of daytime or nighttime trips in either direction.

Money invested in streamlined trains has brought a handsome return on the investment, in some cases doubtless as high as 100 per cent annually.

Other Rock Island trains, not streamlined, are also handled by diesel passenger locomotives, and such crack freight trains as the *Rocket Freights* also make use of diesel power. The road also has a large fleet of diesel switchers.

It is customary to expect a saving of 25 per cent on the investment when road freight diesels are first put into service. Those assigned to preferred runs usually exceed that. As the fleet grows larger and larger, the percentage of saving drops as some locomotives are used on shorter runs or have to wait for an assignment.

A pool of five passenger diesels assigned to the *Golden State* and the *Imperial* holds the record for the greatest monthly engine mileage of any railroad in the world. Those five locomotives run 35,000 miles each per month. The locomotive which pulls the *Golden State* from Chicago to Tucumcari has only 50 minutes to turn around and pull the *Imperial* to Chicago. The diesel engines are never shut down from the time the locomotive leaves Chicago until it returns some 46 hours later.

The Rock Island has spent more than $100 million in its rehabilitation program. Almost half was spent on new equipment and in modernizing old equipment. Operating costs were reduced not only by adding equipment and other facilities, but also by removing unnecessary and unprofitable facilities. For instance, since the beginning of the program, 650 miles of road has been abandoned and will never have to be maintained any more.

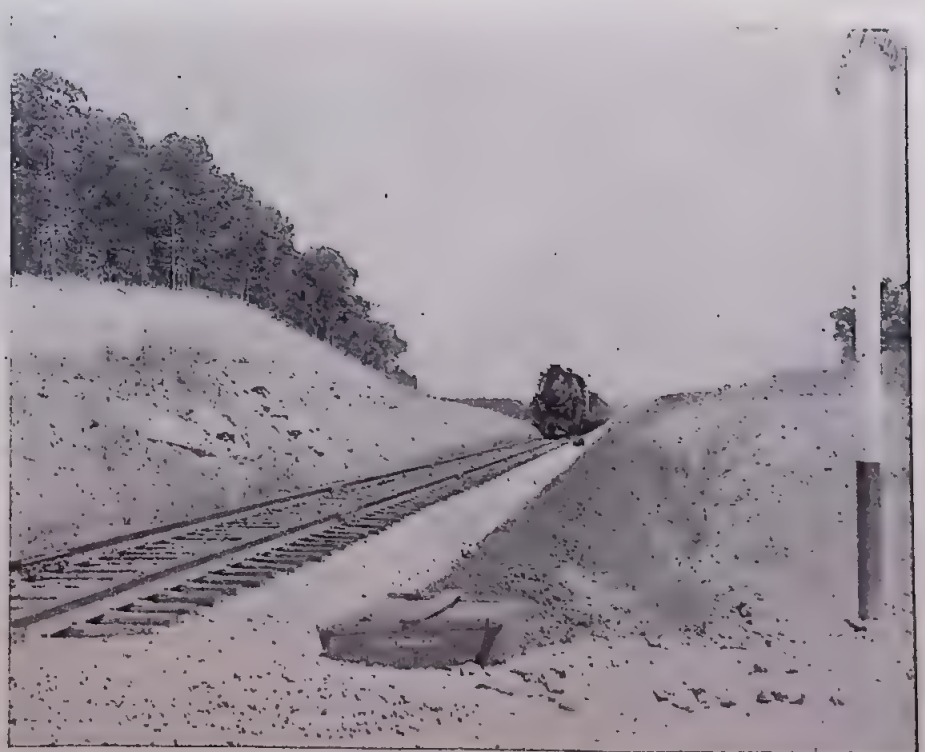
Modern motive power costs entirely too much money to have it waiting at sidings for someone to open a switch, or to have it stop for non-interlocked crossings. It is too expensive to have it slow down for curves. Its great tractive effort cannot be fully used if tonnage is limited at one or more points by heavy grades. Neither can it be used on divisions which have light-loading bridges.

So to spend money wisely and obtain economical annual savings from the expenditure, it takes careful planning by engineers who understand railroading as a whole. They should be good engineers and good operators, and have an eye open for ways of getting traffic. One of the best ways of getting and holding traffic is to offer superior service.

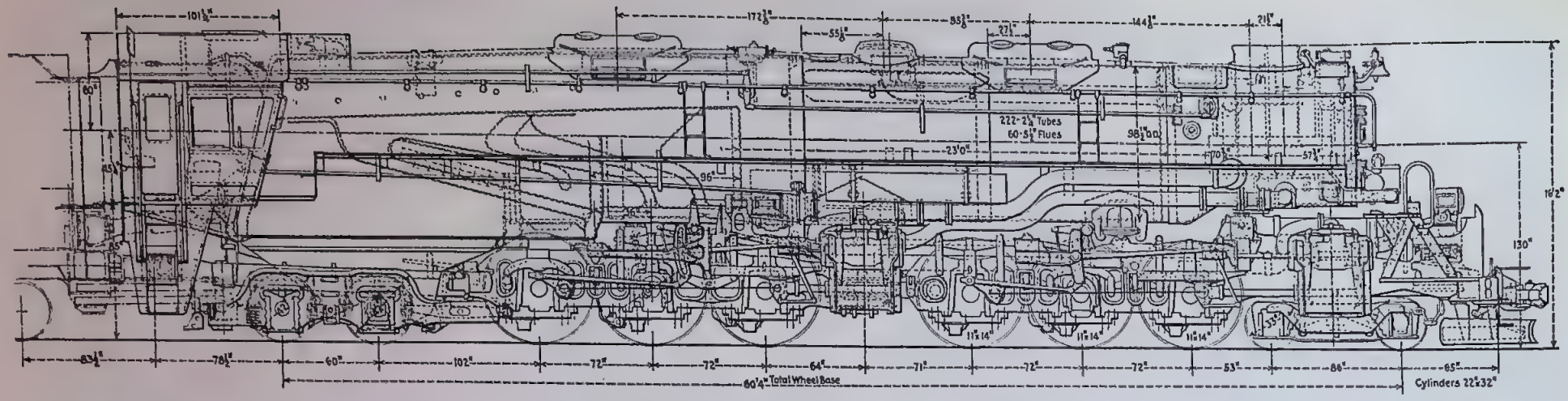
During the past 10 years many other railroads have been modernized too, but few of them were in such poor condition at the start, and probably no other great railroad has had such a complete face lifting as the Rock Island. That its modernization program has paid off may be seen from the fact that in 1938 the Rock Island had an operating ratio of 83.4 per cent while all class 1 roads showed an operating ratio of 76.3 per cent. From 1938 on, the Rock Island constantly decreased its operating ratio, and in 1943 it stood hand in hand with the class 1 roads of the country. In that year the Rock Island's operating ratio was 61.7 per cent while all class 1 roads showed a ratio of 61.6 per cent.

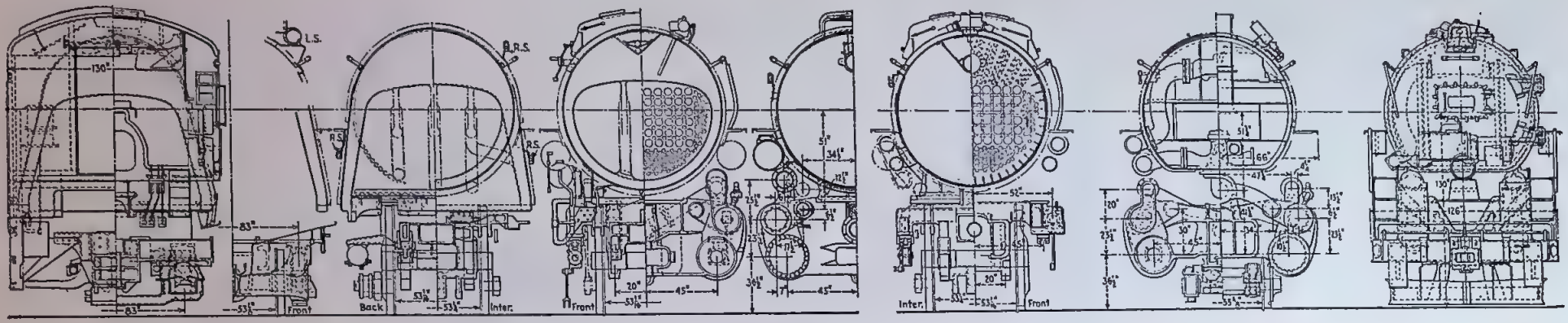
Since 1943 the Rock Island has been *ahead* of the industry. While all class 1 roads' operating ratio increased to 79.2 per cent in 1945 due to rises in costs of labor and materials, the Rock Island's ratio increased only to 70.8 per cent.

**The new line near Eldon, Ia., is typical of all the relocations in Iowa and Missouri. The freight train is climbing a 0.5 per cent eastbound grade. This straight new line is nothing, however, compared to one stretch between Guymon, Okla., and Dalhart, Tex., where the rails run 71.8 miles without a single curve.**



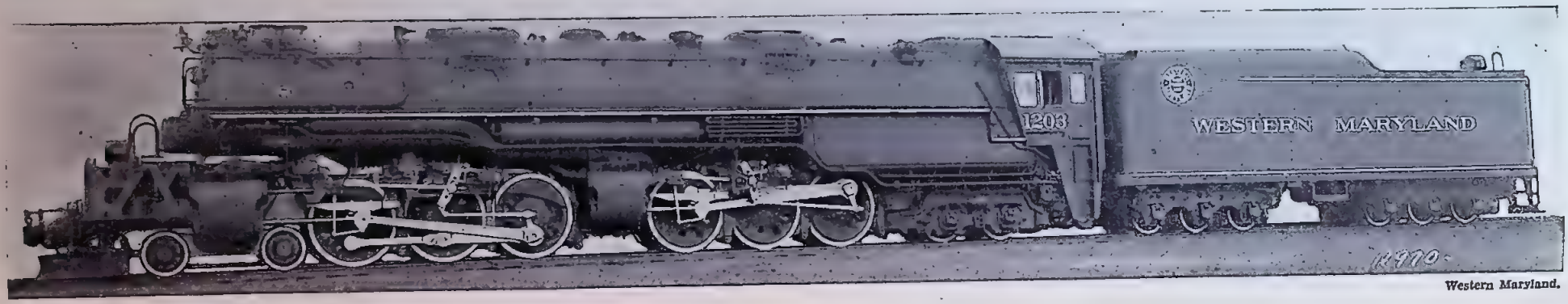
Rock Island.




## Principal dimensions of the Western Maryland class M-2

| | | | |
|---|---|---|---|
| Cylinders (4), diameter and stroke, in. | 22 x 32 | Weight on drivers, lbs. | 402,266 |
| Diameter of drivers, in. | 69 | Weight on front truck, lbs. | 81,500 |
| Weight on trailing truck, lbs. | 117,234 | Evaporative heating surface, sq. ft. | 5770 |
| Weight of tender (2/3 load) | 338,250 | Superheating surface (Type A), sq. ft. | 1735 |
| Grate area, sq. ft. | 118.8 | Tractive effort, lbs. | 95,500 |
| Steam pressure, lbs. per sq. in. | 250 | Tender capacity | 22,000 gal.; 30 tons |




Western Maryland.

# Photo section

## *Western Maryland's M-2*

**Western Maryland is primarily a coal-hauling railroad; it derives about 50 per cent of its total operating revenues from the transportation of bituminous coal alone. It's a mountain railroad too, with steep grades over which it hauls heavy trainloads. The class M-2 4-6-6-4 locomotive was designed to meet the operating handicaps of the line between Hagerstown, Md., and Connellsville, Pa., where the ruling westbound grade of 1.75 per cent squirms 21 continuous miles around curves as sharp as 8 degrees. No. 1205→ is on this heavy grade up Big Savage Mountain. The usual train of 3000 to 3500 tons is handled by an M-2 at the front, an 1111 class Decapod about 20 cars back, and one of the old 900 series Mallets at the rear. No. 1207↓ is at Ridgely, W. Va., where the Western Maryland maintains engine facilities across the river from Cumberland, Md. Baltimore & Ohio owns the Western Maryland through non-voting trust certificates, and furnishes WM with much of its coal traffic. Other important revenue-producers include iron and steel, petroleum oils, lumber, shingles and lath, and cement. WM traffic is predominantly eastbound to tidewater points.**

David W. Jefferies.

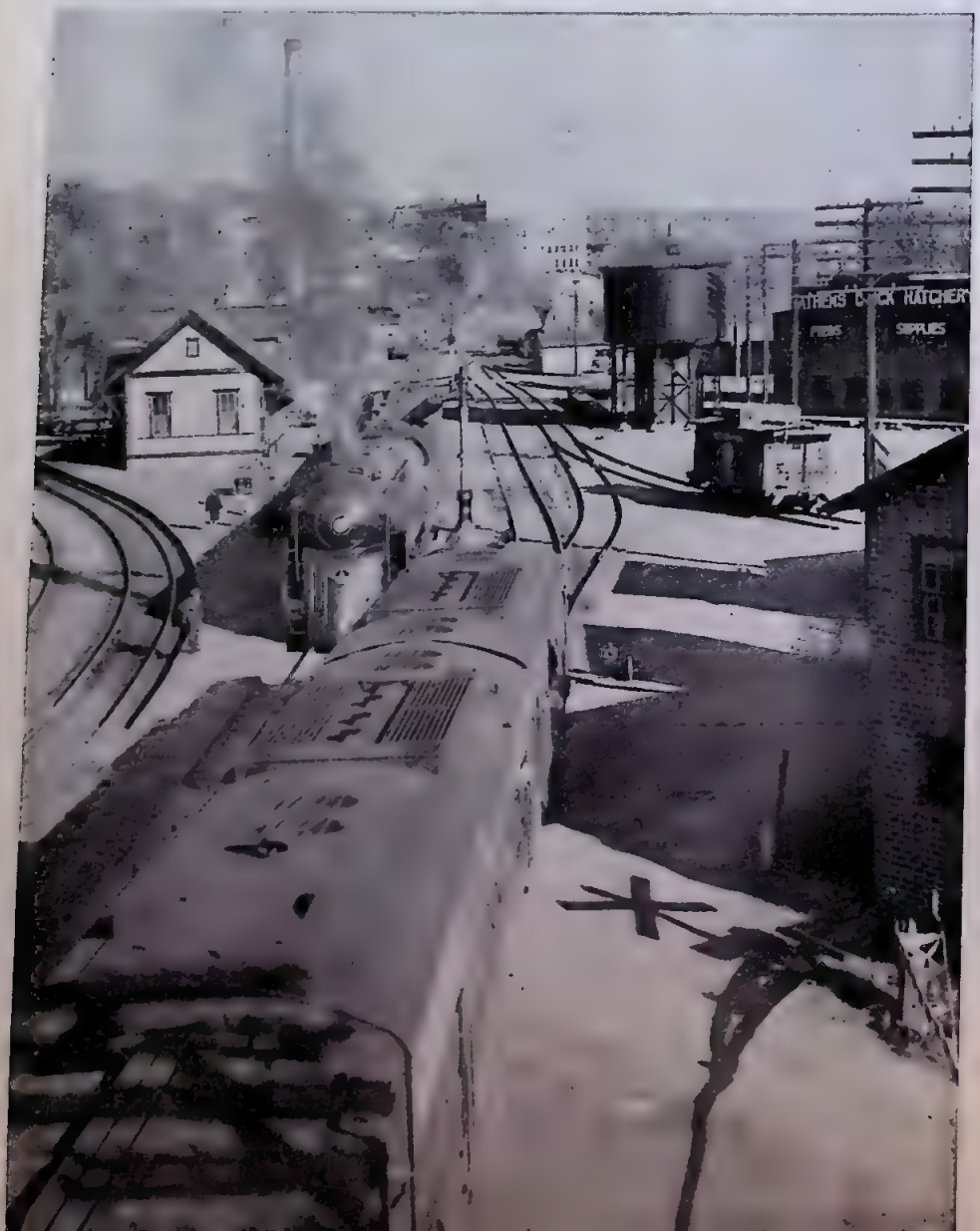
Donald W. Furler.

W. P. Ratchford.

**A Delaware, Lackawanna & Western passenger train heads eastward up the hill out of Scranton, Pa., on its way over the Poconos. Scranton has a variety of rail interest, with five steam roads and the electric Lackawanna & Wyoming Valley Railroad, the "Laurel Line." The L&WV offers an interesting side trip to Wilkes-Barre. Its station is near the DL&W's, visible in the background.**

R. P. Morris.

B. F. Cutler; Rail Photo Service.



## *Raritan River Mixed*

**You can't see trains like this↖ on the Raritan River Railroad any more, because it now offers freight service only. This photo was taken in 1931. The Raritan River Railroad runs 12.3 miles from South Amboy to New Brunswick, N. J., and despite its short length it boasts of three branches: from Sayreville Junction to Sayreville, 2 miles; from Serviss Junction to Reid Street, South River, 4 miles; and from South River to Wright's, 1 mile. The little road's eight stockholders include the Pennsylvania Railroad and the Central of New Jersey, which hold the controlling interest.**

## *Cincinnatian takes a drink*

**Baltimore & Ohio's crack Cincinnatian← takes water at Athens, O., as a diesel-powered freight train runs around her. The Cincinnatian is a de luxe daytime coach train which offers something unique in reserved seats: You can reserve your seat if you wish, but you don't have to in order to ride. Besides coaches, the train carries a coffee shop car and observation-lounge-diner. Its normal crew includes a stewardess-nurse.**

## *Contrast on the Canadian National*

**Flashing through a cut near Oshawa, Ont., at 70 miles an hour, Pacific No. 5596→ of the Canadian National did not stop at Oshawa as most trains do. It was on a summer day late in the war, and as the engine carried white flags railroadmen in Oshawa speculated that it must be an army extra bound for an east coast port. CNR's 5500 class engines were originally the old 200 class of the Grand Trunk Western, and they're about 40 years old. The road's latest 4-8-2↘ leaves Toronto bound for Detroit.**

Robert Holden.

James Walder; Rail Photo Service.

## D&H Ten-Wheeler

Delaware & Hudson train 202, from Albany, N. Y., passes a C. T. C. signal just west of Tunnel, N. Y. Engine 523 is a graceful and fast Ten-Wheeler, the standard motive power on this run. The train covers the 142 miles to Binghamton in just under 5 hours.

Photo by H. D. Runey.

J. A. McLellan.

J. A. McLellan.

Car 1023↖ of the Lehigh Valley Transit Company is a former Cincinnati & Lake Erie car. The LVT operates between Philadelphia and the Lehigh Valley cities of Easton, Bethlehem and Allentown, and is known as the Liberty Bell Route. It got this name from the fact that much of the Philadelphia Division was on or beside the Bethlehem Pike over which the Liberty Bell was taken in 1777 to Allentown. In 1893 the bell was returned to Philadelphia before it was sent to the World's Fair at Chicago, and LVT did the hauling. A northbound Liberty Bell Limited← enters Norristown station. Car 702↓ is just north of Quakertown, Pa.

J. A. McLellan.

Both photos from the collection of Harry C. Gale.

Little is known about these old-time Chicago & North Western photos except that the one showing a double-header↑ was taken at Manitowoc, Wis., on March 28, 1898. The view is eastward on Quay Street, and not all of the smoke comes from the locomotives; the cold-storage building in the distance is on fire. The flags and posters on the freight cars may have been part of a political campaign, or, more likely when one considers the date, a part of the "Remember the Maine" campaign which preceded the Spanish-American War. The Maine was sunk February 15, 1898; fighting began April 21. The photo of No. 956↓ and her two cars was probably taken about the same period, perhaps in the same vicinity.

Philip R. Hastings.

## *Closing the gate*

**Boston & Maine northbound freight B-U-1 comes out of the siding after meeting southbound passenger train 72, and the flagman throws the pump-like switchstand to the mainline position. Bradford is 28 miles north of White River Junction on the B&M's Connecticut River Line, and the train for which B-U-1 took siding is en route from Berlin, N. H., to Springfield, Mass., and then via the New York, New Haven & Hartford to New York City. The double-arm lower-quadrant block signal and the capacious caboose are typical of the B&M. Notice mop hanging on ladder.**

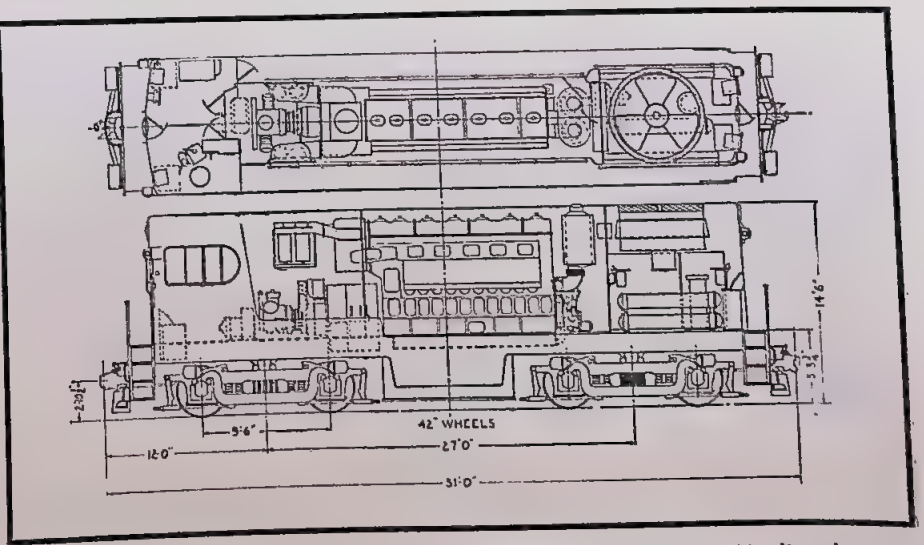
# Another new Fairbanks-Morse diesel

**This heavy-duty switcher-type locomotive packs 2000 horsepower into limited space and is specially designed for freight transfer service at speeds up to 65 m. p. h.**

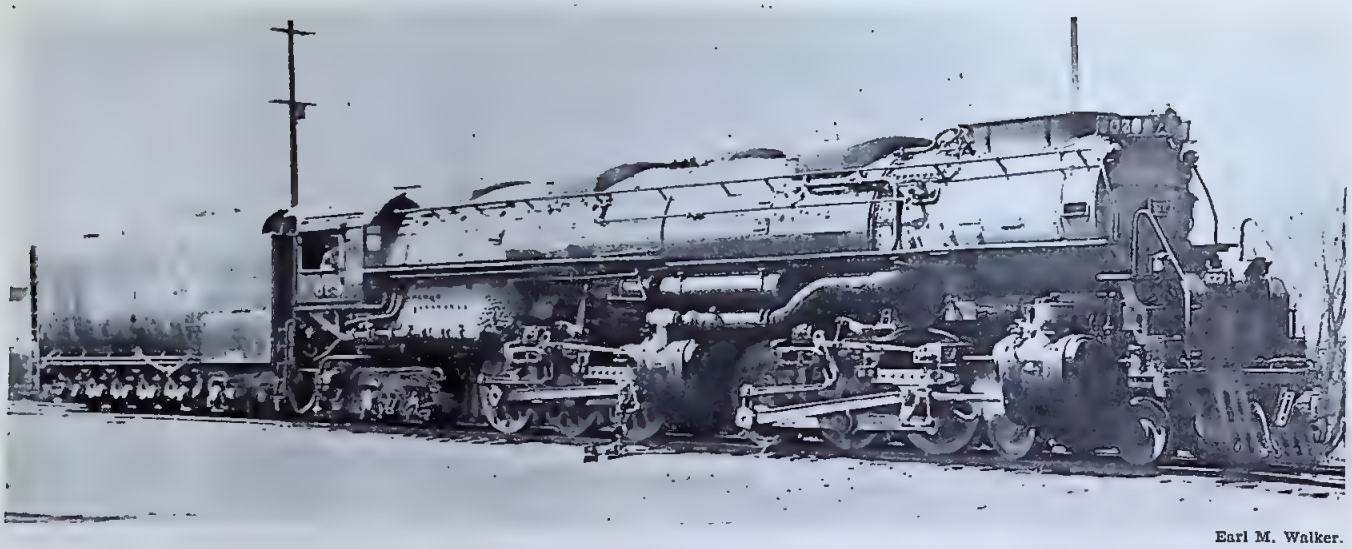
*Fairbanks-Morse* is now manufacturing a 2000-horsepower diesel unit which, the company claims, is the most powerful diesel locomotive ever built on four pairs of drivers. The locomotive is especially applicable to freight transfer service. It weighs 125 tons, all of which is concentrated on the four driving axles. Maximum continuous tractive effort is rated at 42,800 pounds.

F-M's 2000-horsepower streamlined road units are 64'-10" long between coupler knuckles. This new locomotive is only 51'-0" long between knuckles. It has the general appearance of a switching locomotive but is well suited to road work. Maximum speed is 65 m. p. h.

The locomotive is designed to be used as a single unit, but multiple unit control equipment is optional.




2000-horsepower F-M diesel



Earl M. Walker.

**The Clinchfield Railroad bought the 3800-3805 series of Denver & Rio Grande 4-6-6-4's↓ and renumbered the six four-year-old locomotives 670 to 675. No. 673↑ and her sisters are working hand in hand with other 4-6-6-4's built to Delaware & Hudson Plans, hauling coal trains in the Southeast.**

American Locomotive Company.

**No. 3800↑ was the first D&RGW 4-6-6-4 built to Union Pacific plans during the war. She's alike in every respect to UP 3967↓ except for her weight in working order and her factor of adhesion. This is due to different methods of weighing; D&RGW carries a higher water level when weighing.**

American Locomotive Company.

**These four-cylinder simple articulateds have 69" drivers, 21" x 32" cylinders, 280 pounds boiler pressure, and a maximum tractive power of 97,350 pounds. Grate area is 132.2 sq. ft.; total evaporative heating surfaces, 4795 sq. ft.; superheating surface, 2162 sq. ft. Total wheel base, 106'-8".**

# Can steam locomotives be standardized?

**Most steam locomotives are custom-built to the needs of the individual railroad, but wartime standard designs operate satisfactorily on many different lines**

BY DAVID P. MORGAN

A distinguishing feature in the rapid spread of diesel locomotives across the North American continent has been this motive power's standardized design and consequent mass production. Diesel locomotive builders have successfully adopted the automobile industry's method of single production lines producing single standard designs. Electro-Motive, Alco-GE, Baldwin-Westinghouse, Fairbanks-Morse — all are turning out locomotives designed to operate over any railroad of class 1 proportions.

This uniform system has produced an economy of unit cost and parts supply without which the cause of the diesel would have been doomed. It has meant the sale of identical 1500-horsepower units to a New England road or to a southwestern carrier. American Locomotive Company's new 1500- and 2000-horsepower units have 98 per cent of their wearing parts in interchangeable form.

The reciprocating steam locomotive, on the other hand, has always been considered a custom-made product, a product to be specifically designed and built for one railroad only. And there were reasons for this policy. Fuel conditions often dictated special firebox construction, as with the Mother Hubbard engines of the hard-coal carriers. And during certain periods the locomotive engineering world has passed through vogues of compounding, three-cylinder operation, and booms for varied forms of valve motion. These factors have tended to push the standardization of steam power further into the background.

The first wholesale effort to push uniform designs onto the railroads, in modern times, took place during World War I and its aftermath, when the United States Railroad Administration operated the carriers. To meet the terrific demand for motive power, this government agency prepared a set of standard designs covering most of the then-popular wheel arrangements. Then 2025 locomotives were mass-produced by all three builders — American, Baldwin, and Lima — to these definite patterns, and distributed to the railroads. These engines were greeted with mixed feelings by the railroads. Boston & Albany soon sold its 10 assigned Santa Fe types to the Canadian National.

But if the U. S. R. A. locomotives were a failure on this New England road, they were highly successful in Dixie operation. The Virginian moved the bulk of its coal tonnage with U. S. R. A. 2-8-8-2's right up to the late war. The Atlantic Coast Line found the U. S. R. A. light and heavy 4-6-2 locomotives ideal dual-service power for moving winter-season passenger hauls and fruit blocks. Louisville & Nashville was highly enthusiastic about its U. S. R. A. engines, and continued to purchase motive power to these specifications through 1930. Indeed, the L&N has employed its versatile J-4 2-8-2 (U. S. R. A. heavy Mikado) on 18-car *Azalean* limiteds, on way freights, and on the superfast *Silver Bullet* merchandise redballs.

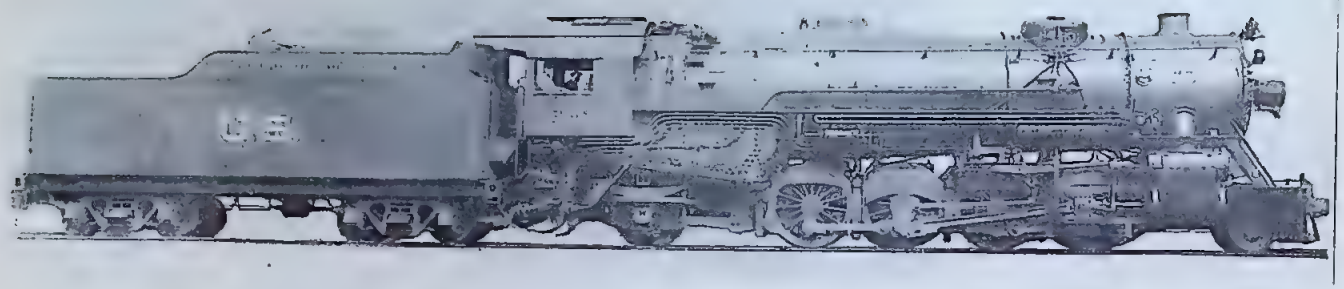
Southern Railway's newest and finest steam power, including the famous Ps-4, has been built to U. S. R. A. standards. Eastern trunk lines which have employed

Baldwin Locomotive Works.

**Erie 2924 is a U. S. R. A. heavy Pacific, built by Baldwin during World War I. Others were built by Alco. In 1918 the government assigned all the heavy 4-6-2's to Erie. The road then ordered more.**

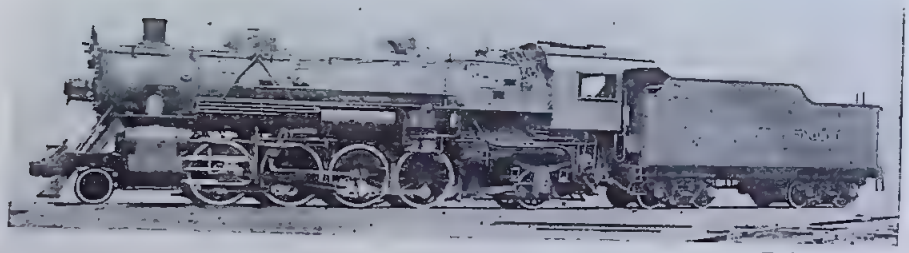
Baldwin Locomotive Works.

**Another World War I design was the U. S. R. A. light Pacific, of which B&O 5204 is an example. The government called this "standardized locomotive, class 4-6-2-A." Erie 2924 is "class 4-6-2-B." The standardized U. S. R. A. locomotives included everything from road engines to yard switchers.**



Harvey Uecker; courtesy Milwaukee Road.

**The Milwaukee Road used U. S. R. A. heavy Mikados↑ at the government's behest in World War I. Baltimore & Ohio received 100 engines built to U. S. R. A. light Mikado↓ specifications, class 2-8-2-A.**



Trains collection.

these war designs with success include the Baltimore & Ohio, the Erie, and the New York Central. In general, these locomotives not only performed well, but carried a widespread effect on future independent designs as well. Many carriers improved on the basic design by applying boosters, feedwater heaters, long-distance tenders, and siphons.

It took World War II to display once again the possibilities of a few well-engineered universal steam-power designs. The War Production Board sent out directives eliminating any thought of completely new designs, and the railroads were obliged to accept locomotives that the builders could construct from existing dies and blueprints. Many railroads had not purchased new freight locomotives since the Great Depression, and it was this that caused the peculiar situation of the Pennsylvania operating more than 100 2-10-4's of C&O heritage by war's end.

The classic example of the steam locomotive's versatility, though, is the story of what happened to six 4-6-6-4 Challengers built by American Locomotive in 1943 for the Denver & Rio Grande Western. Although constructed to Union Pacific plans, these articulateds were assigned to the Rio Grande by the government to ease a power shortage on the route that goes "through the Rockies — not around them." And there they stayed all through the war and its aftermath — hauling tonnage trains on the Salt Lake City end of the road.

But with traffic declining to peacetime levels, the Rio Grande returned this 3800-3805 series to the War Assets Administration. These engines now carry numbers 670 to 675, and are working on the Clinchfield, a southeastern coal carrier which spans five states. This was an anticlimax, since the Clinchfield was already operating a fleet of 4-6-6-4's it purchased new during the war — only these were built from Delaware & Hudson plans. Thus, locomotives originally designed to serve the needs of an eastern hard-coal road and a far-flung western transcontinental are now working side by side on a line that cuts deep into Dixie.

But the national emergency that forced the pooling of new construction plans also created other examples of motive power transfer. Many roads found it necessary to obtain more locomotives than the War Production Board allocated them in new construction. Santa Fe purchased Y-6 compound 2-8-8-2's from the Norfolk & Western for use as helper engines over Raton Pass and other tough operating districts. Lackawanna 4-8-2's rolled Atlantic Coast Line passenger trade. Wabash light Mikes worked way freights over the Seaboard's Florida branches. Erie 2-8-2's rumbled into Chattanooga with Southern freight drags. Missabe Road Yellowstones thundered up the centrally controlled Moffat Tunnel route. And so it went across the nation.

While it is doubtful if modern reciprocating steam power could ever reach the fine point of standardization that the diesel has attained, two world wars have proved that mass-produced locomotives of standard wheel arrangements can lower unit cost and afford operating satisfaction to the majority of railroads. Steam power will become a greater rival of the diesel if and when the railroads agree to accept the same degree of standardization as they have with the diesel.

**More than 100 Pennsylvania 2-10-4's were built to C&O plans and specifications in the late war.**

Pennsylvania Railroad.

# South Dakota short line

**Rapid City, Black Hills & Western, after 56 years of struggle, has asked authority to abandon its 33½ miles of scenic right of way**

BY DAN VALENTINE

*If you have* $287,234 lying about in loose change, you have an opportunity to go into the railroad business. That is the estimated net salvage value of the Rapid City, Black Hills & Western Railroad, 33½ twisting, picturesque miles of line through the Black Hills of South Dakota.

If you or someone else does not buy the RCBH&W in a hurry, the railroad will be abandoned in its entirety, for an Interstate Commerce Commission examiner has recommended that the railroad's petition for authority to abandon be granted — subject to the condition that the 32.2 miles of owned rails, or any portion thereof, be sold to any responsible party offering to purchase the railroad for continued operation and willing to pay not less than the net salvage value.

The Rapid City, Black Hills & Western, like the California Western [September TRAINS], has been called "the crookedest railroad in the world." It traces its ancestry back to the Dakota, Wyoming & Missouri River Railroad, which William T. Coad projected in 1891 to connect Rapid City with Mystic. He planned to build onward throughout South Dakota and into Wyoming for a total of 314 miles. But Coad didn't get very far with his ambitious plans. The going was rough, and after pushing a mere 8 miles from a point about 2 miles west of Rapid City, the line was taken over by the Dakota Pacific, which Coad organized for that purpose. Then Coad ran into financial difficulties again, and the railroad was in the hands of receivers for several years.

Charles D. Crouch came on the scene in 1904. He reorganized the road as the Missouri River & Northwestern Railway and pushed the line through to Mystic, where it met the Burlington. Coad and his early attempts were forgotten, and Crouch was hailed as the real builder of the line. To this day it is known locally as "the Crouch line."

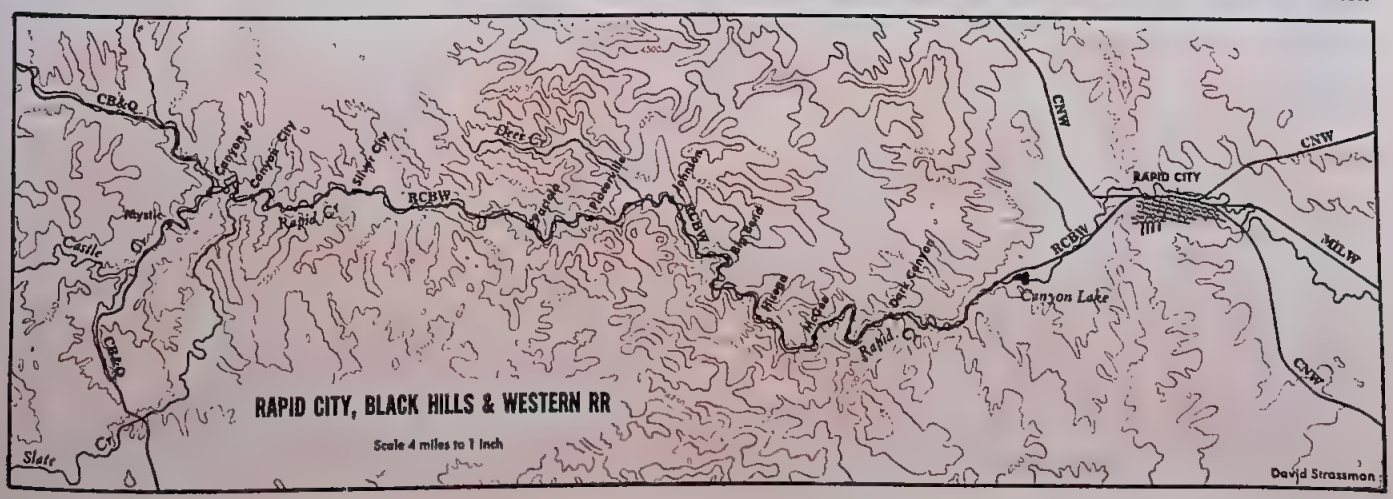
Crouch, too, planned to build beyond Mystic, but like his predecessor he ran into a streak of bad luck. Flash floods wiped out 100 of the 102 bridges along the line, and a collision brought law suits which forced the company into the hands of receivers in 1907.

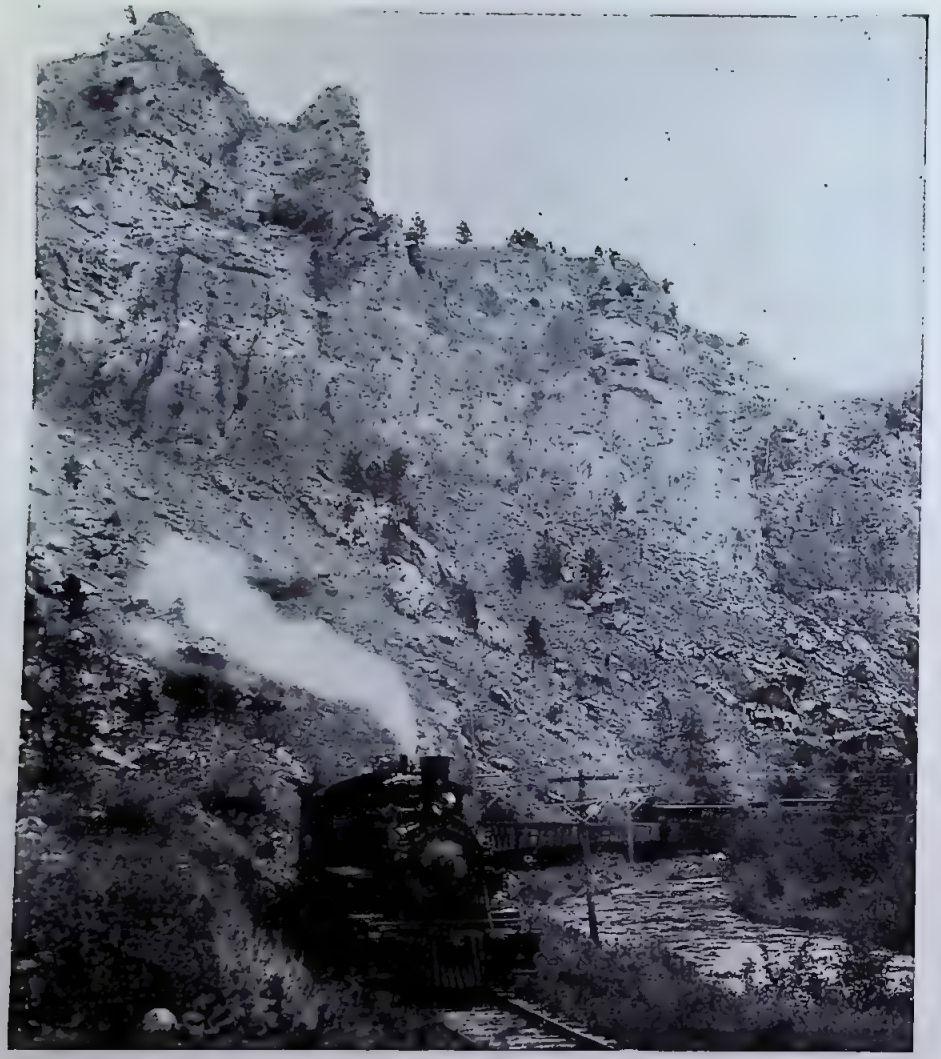
New York bankers bought the bankrupt Missouri River & Northwestern Railway and reorganized it under its present name. They operated it at a loss for some time, and were about to junk it when a group of civic-minded Rapid City businessmen stepped into the picture and took the road off their hands shortly after World War I. They have been operating it ever since, most of the time at a small loss which they considered worth taking because of the attraction the Crouch line held for the thousands of tourists who visit the Black Hills each year.

But the inflation period following World War II has proved a little too much for the local backers. The company's employees have asked for wage increases, but the President's emergency committee recently voted that, due to the road's financial condition, it did not have to pay the general 18½-cents-an-hour raise granted to the nation's short line railroad workers. Freight business has fallen

C. T. Steeb.

**An excursion train stops in a wide part of Rapid Canyon to unload picnicking passengers.**





Dan Valentine.

off in recent years because of truck and airplane competition. The owners have voted to liquidate their holdings. They're losing about $500 a week.

Now it's time for you to step in with your $287,234 admission fee. The repeat performance is about to begin.

*Coad,* back in 1891, visualized the Dakota, Wyoming & Missouri River Railroad as a vital carrier of lumber from the heart of the Black Hills to Rapid City — lumber for use in the building boom when the famous mining camps of Deadwood and Lead were first thriving. This was during the fabulous gold strikes of the late 19th century. As we have seen, the railroad was never very prosperous, and in recent years its chief asset has been the Black Hills scenery through which it winds in Rapid Canyon. Its 102 crossings of Rapid Creek and its made-to-order stops for fishermen and picnickers made it a great tourist attraction.

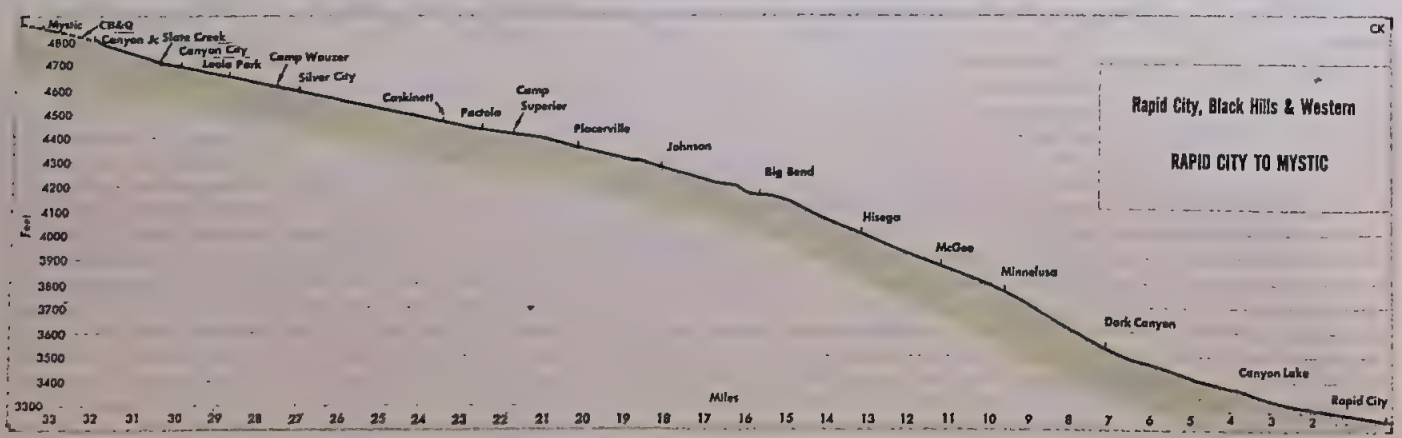
The one passenger train a day makes a round trip over the railroad's own 32.2 miles of rails and 1.3 miles of Burlington tracks at the Mystic end of the run. Rapid City mathematicians have figured that there are enough curves in the short line to make 14 complete circles. The winding rails cut through the jagged rocks of the Black Hills, run through majestic canyons and ravines, and weave around huge mountains which stand like sentinels in the sky. The hand-hewn rock cuts have attracted geology students from many colleges and universities, for it is claimed that every rock formation from the be-

**The mixed train↖ negotiates a kink beside Rapid Creek. All freight cars in this train belong to the Burlington. The RCBH&W owns only one box car↙, imposingly numbered 1001. Wooden platform↓ helps passengers at Pactola.**

C. T. Steeb.

C. T. Steeb.

**The Rapid City, Black Hills & Western's light iron (65-, 70- and 75-pound) rises almost continuously from Rapid City to Mystic. The eastern terminal is 3233 feet above sea level; Canyon Junction is 4813 feet above sea level. From Canyon Junction the tracks of the Burlington route rise another 40 feet to the station at Mystic. This gives an average grade of 0.9 per cent between mileposts 9 and 10, just west of Minnelusa. The longest heavy grade, 1.3 miles, varies from 1.5 per cent at milepost 7.3 to 2 per cent at milepost 8.6.**



ginning of time can be seen during the short trip. Field trips over the Rapid City, Black Hills & Western are a part of the student geologists' course.

Service on the RCBH&W has always been rather informal. When a family of picnickers wants to get off, the train is stopped at the spot of their choice. The train picks them up on the return trip in the afternoon. Fishermen have been known to try their luck in Rapid Creek as the train inched slowly along; sometimes the engineer and conductor would throw out a line if they saw the fish were biting.

The railroad owns three oil-burining locomotives, 15 work cars and cabooses, and four pieces of passenger equipment: a 56-foot 64-passenger coach, a 77-foot 80-passenger coach, a 35-foot 32-passenger railcar, and a 26-foot 30-passenger observation car. Its trackage rights over the Burlington begin at Canyon Junction and continue to Mystic on the Burlington's line from Edgemont to Lead and Deadwood. At the Rapid City end of the line, the RCBH&W connects with the Chicago & North Western and the Milwaukee Road.

When the railroad is abandoned, most of the right of way will revert back to the United States Forestry Service. Meanwhile, most of the old-timers in the Black Hills — and many of the youngsters — are making plans to take one last trip on the line before it passes into history books of the Black Hills along with Wild Bill Hickock, Calamity Jane, and the roaring mining camps of the nineties.

C. T. Steeb.

Courtesy RCBH&W.

**This neat Ten-Wheeler↗ is one of RCBH&W's four engines. The railroad passes an abandoned sidehill quarry→. The gasoline car and trailer↘ are at Hisega. Open-air excursion cars↓ were once used but have been scrapped.**

C. T. Steeb.

**CB&Q train 142↓ at Mystic. The Rapid City, Black Hills & Western uses the same station.**

A. C. Wislisen

C. T. Steeb.

*A full color reproduction of this illustration, 13" x 14", suitable for framing, will be sent upon request. Write to Advertising Dept. T, Norfolk and Western Railway, Roanoke, Va.*

# Whither?

THE INNKEEPERS looked, and shook their heads. "No room—the house is filled—pass on!"

Pass on? WHITHER?

The world almost 2000 years later pleads the same question . . . *whither?* In the centuries since the first Christmas Eve, mankind many times has plagued itself with violence and sorrow, and whole nations have engulfed and lost themselves in the mad race—*whither?*

This season of the year recalls *the way* as it was shown by Him who spoke guidance for all peoples in all years. May it be the prayer of men on this anniversary of the birth of the Prince of Peace that our world may move in the light and understanding of His words . . . "on earth, peace, good will toward men."

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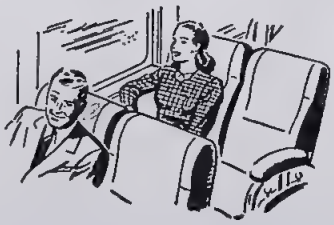

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. . . and for safety, such precautions as automatic block signals, a smooth roadbed and the famous Mars oscillating safety lights on locomotive and rear end of train.

**Here's the Schedule**

| Going | | | Returning |
|---|---|---|---|
| 2:45 pm | Lv. | Chicago | Ar. 9:00 pm |
| 4:00 pm | Ar. | Milwaukee | Ar. 7:40 pm |
| 7:35 pm | Ar. | Eau Claire | Ar. 4:09 pm |
| 9:00 pm | Ar. | St. Paul | Lv. 2:45 pm |
| 9:30 pm | Ar. | Minneapolis | Lv. 2:15 pm |

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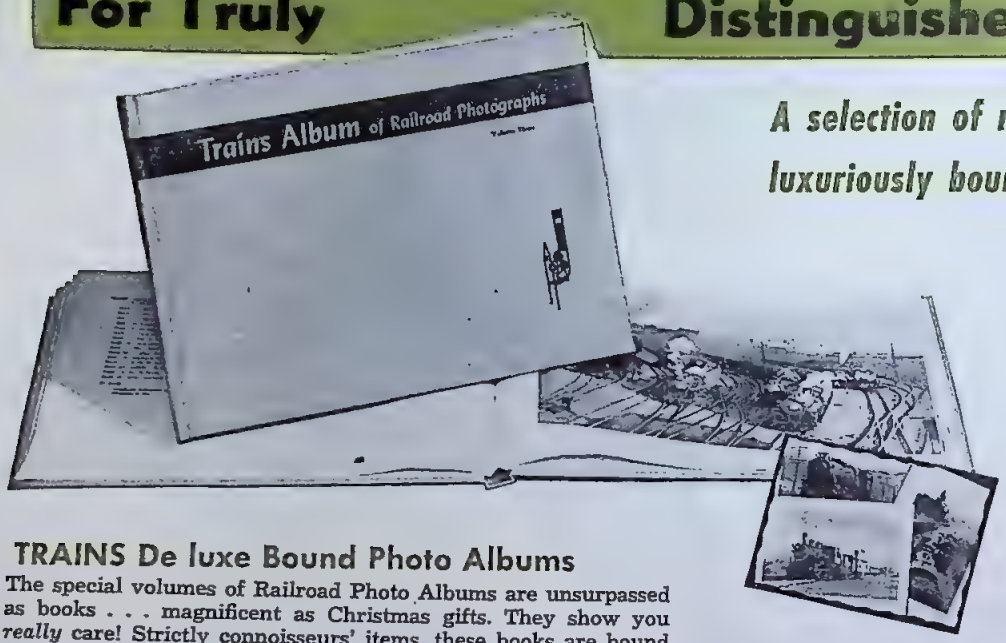


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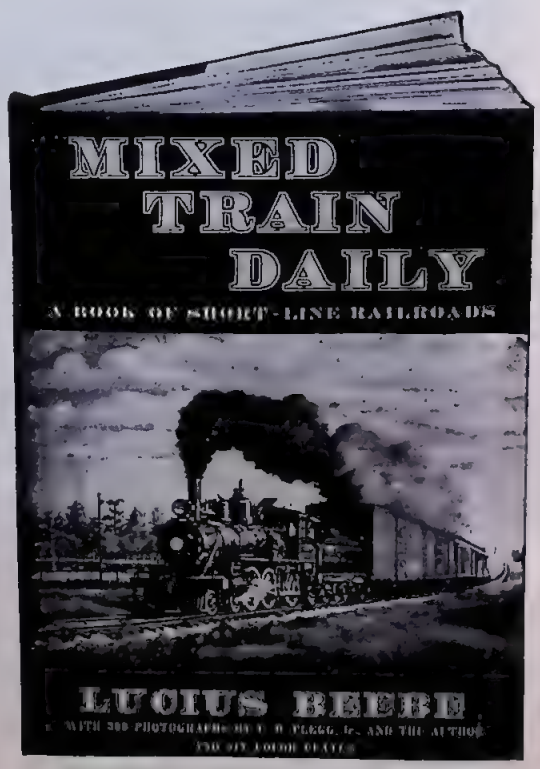


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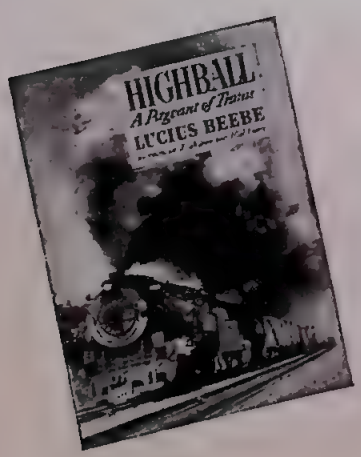


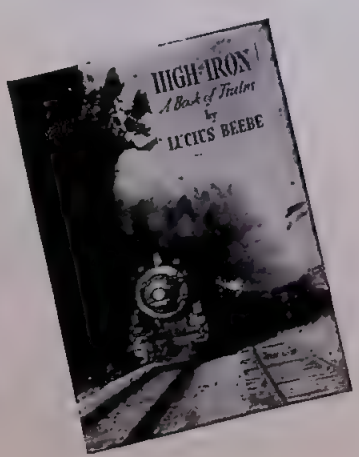


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# Mopac replaces a switch

BY W. W. SALISBURY
Division Engineer, Missouri Pacific Lines.

One of the busier interlocking plants on the St. Louis Terminal Division of the Missouri Pacific Lines is the one at Grand Avenue, where three railroads — Missouri Pacific, Wabash, and Frisco — diverge. All passenger movements of the three roads use the plant; the Missouri Pacific's main freight line from the 23rd Street yards is on the plant, and the Frisco and Wabash operate many transfer drags over it in addition to light engine movements between their roundhouses and Union Station. Thus, when it becomes necessary to make major replacements in the plant, speed is essential.

Such an occasion was last May 5, when a new double slip switch crossing was installed as a replacement for a 20-odd year old unit. The new unit, 110 feet long and weighing approximately 40 tons, was assembled in its entirety alongside the right of way several days in advance and was tested for smooth operation by means of temporary air and electric connections. When the work of placing it got under way, it was lifted into position and connected up in slightly less than six working hours and without delay to train movements. By-passes cared for the traffic during the six-hour period, which was timed to come between the morning and afternoon peak hours.

Right behind Missouri Pacific's westbound passenger train No. 23, wrecking crews from Ewing Avenue and Dupo yards moved into position on the westbound main at 9:10 a.m. and lifted the old switch, constructed of 90-pound rail, from its position. They carried it in three sections to a dump alongside the right of way where trackworkers could dismantle it at leisure. Removal of the old trackage required less than an hour, but getting the new unit into position was a much slower process.

The switch assembly, constructed of 112-pound rail by the Ramapo-Ajax Corporation, was braced along the center by a 60-foot steel I-beam. The I-beam was secured to the ties by bars bolted together. The assembly was resting on a slight embankment about 2 feet above and to the north of the track into which it was to be fitted, and had to be lifted over one track and carried a distance of approximately 50 feet.

A telephone cable running to a terminal pole just west of the Grand Avenue tower was in the path of movement and, because of the existing telephone strike, could not be moved. Thus it was necessary for the derricks to make the initial lift from a high boom position, shift the unit as far as possible toward the track without disturbing the cable, and then crib the unit while lift lines were disconnected and booms shifted so that the lifting blocks would be on the south side of the cable.

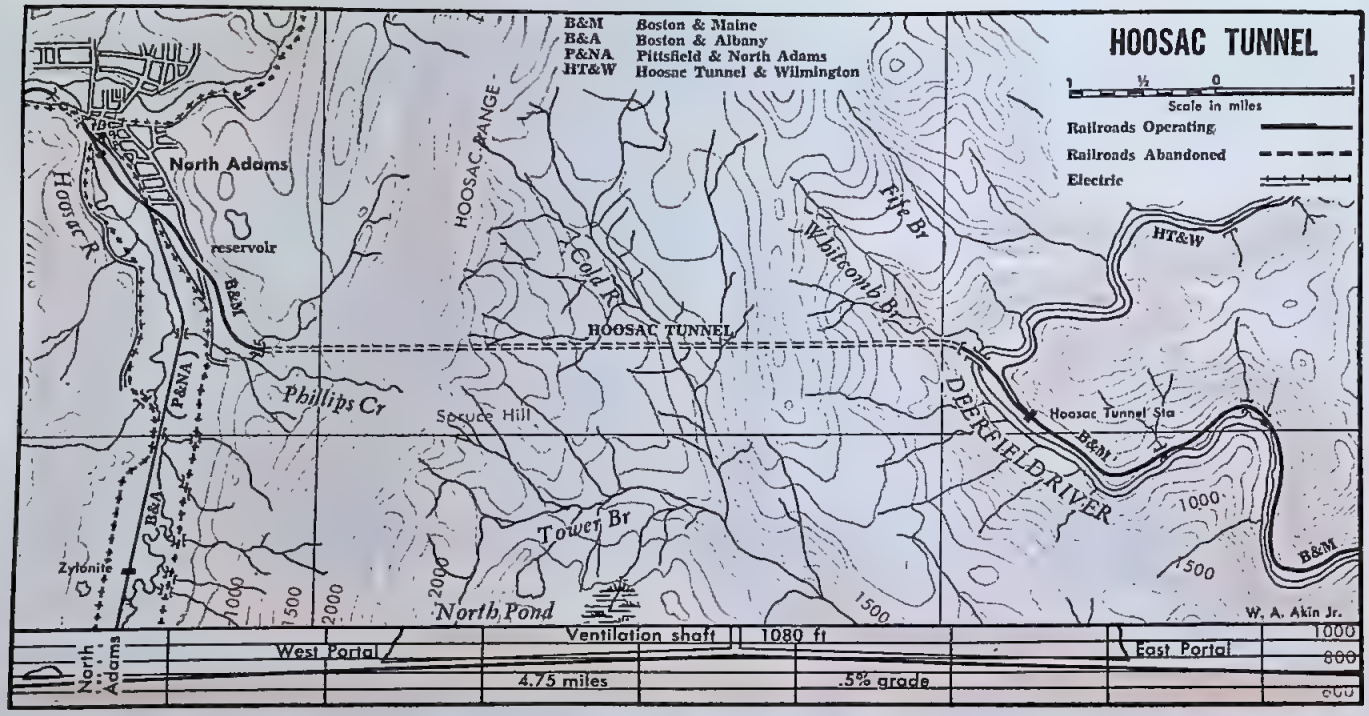
Nothwithstanding this awkward situation, the unit was landed in its proper position at 1:50 p.m., and the track was back in full service shortly before 3 p.m.

Red ball freight No. 68 passes Grand Avenue tower as track gang prefabricates double slip switch.

Wrecking derricks lift out the old track section. This part of the rush job took only one hour.

Missouri Pacific photos.

The derricks lift the new switch into place. The I-beam "backbone" keeps the track from sagging.




**Hoosac Tunnel, on the Fitchburg Division of the Boston & Maine, is the oldest of the long tunnels now in use in the United States. Its construction marked two important advances in tunneling technique: the use of power drills and high explosives. Construction began under the old hand drill and black gunpowder methods in 1851. Mechanical drilling was adopted in 1866, and the tunnel was officially opened July 1, 1876, nearly 25 years after work began. The bore is 4.7 miles long and takes its name from Hoosac Mountain. For many years steam engines operated through it, but despite a ventilating shaft near the center of the tunnel, smoke and gases accumulated to such a degree that the tunnel was electrified in 1911. Electric locomotives drew trains, steam engines and all, through the bore until August 24, 1946, when the B&M dieselized all trains using the tunnel. Fires of the steam engines were banked while behind the electric locomotives. Dieselization of the tunnel run allows the B&M to remove the overhead power wires; diesel 4259 is emerging from East Portal shortly after electric operation was discontinued. No one seems to know just how much Hoosac Tunnel cost, but estimates place the figure at anywhere between $8 million and $20 million. State funds were used extensively to finance the project, and it soon became a first-rate scandal. Hoosac Tunnel was originally proposed as a canal tunnel in 1819, but by the time it was projected, railroads had replaced canal transport.**

# Marker lights serve definite purpose

"Markers" is the official name for the tail lights on a train. You might imagine that their purpose is similar to that of automobile tail lights, to keep the train from being rammed by the following train.

They do serve that purpose, but that is not their primary function. The main purpose is to mark the end of the train so that a station operator will know that the entire train has passed and that it has not dropped one or more cars somewhere on the line. Before the advent of the air brake this was a most important matter; and it still is, for in spite of the fact that the modern air brake will ordinarily stop both parts of a separated train, once in a great while something might prevent the proper functioning of the brakes. If the operator at the next station fails to notice the absence of the markers there is likely to be trouble.

Automatic block signals, of course, give added protection; a following train will get a red signal if cars are in the block. Opposing trains will too — *if* the signal system works in both directions.

On some multiple-track railroads it is the rule to carry two red markers on trains on the inside tracks; while those on the outside carry one red and one green or yellow. But on many such railroads a train may often be crossed from the inside to the outside and from the outside to the inside, and the flagman would be kept busy changing the markers to conform to the rule. As this would create a personal hazard, the rule was abandoned by some roads and all their trains now carry two red markers.

An odd rule applies to trains into and out of Grand Central Terminal, New York. This rule requires the marker on the east side of the train to be taken down and placed in the rear doorway. The reason is simple. Immediately outside of the station, in the Park Avenue tunnel, the two middle tracks are pretty close together. Before the rule was in effect, adjacent markers on passing trains sometimes tangled. At first only trains on the middle tracks were required to observe the rule, but then it was found better to standardize it, as trains now run in either direction on all tracks.

You can have any number of cars coupled to a locomotive, but the assembled equipment is not a train unless it carries markers, for the definition of a train is "an engine or motor car or more than one engine or motor car coupled, with or without cars, displaying markers." — *G. O'Connor.*

## 320 miles of tunnels

Railroads of the United States use approximately 1500 tunnels totaling about 320 miles in length.

## In the last quarter century—

| | |
|---|---|
| Average length of freight trains has gone *up* | 39% |
| Average speed of freight trains has gone *up* | 39% |
| The rate of injuries to railroad employees has gone *down* | 60% |
| Averages wages paid railroad workers have gone *up* | 84% |
| The price of railroad materials and supplies has gone *up* | 58% |
| Railroad taxes have gone *up* | 76% |
| But the average charge by railroads for hauling a ton of freight 1 mile has gone *down* | 23% |

## Wreck of the old 97

The Virginia Conservation Department has perpetuated the "Wreck of the Old 97" by placing a marker at the spot the train fell to its doom on September 27, 1903. It is perhaps the only highway marker in the United States to call attention to a railroad wreck, but state authorities felt it was justified because the song "The Wreck of the Old 97" has become an American ballad.

The marker is in the city of Danville, Va., on the new U. S. Highway 58. The spot was inaccessible for many years after the Southern Railway relocated its tracks and tore down the trestle from which Old 97 tumbled. The new highway bypasses downtown Danville and passes within a few feet of the scene of the wreck.

This is the legend on the marker:

WRECK OF THE OLD 97

Here, on September 27, 1903, occurred the railroad wreck that inspired the popular ballad "The Wreck of the Old 97." The southbound mail express train on the Southern Railroad left the tracks on a trestle and plunged into the ravine below. Nine persons were killed and seven injured. One of the worst train wrecks in Virginia history.

The legend may give rise to some argument because it is recalled by old railway men in Danville that examination of the track after the accident showed the train had already left the rails before it reached the trestle. — *Gerald Tetley.*

## Bridge built backwards

When the Devil's Gate Viaduct was built on the famous Georgetown Loop, the chief engineer of the Georgetown, Breckenridge & Leadville Railway would not accept it. The contractors had built it backwards. The bridge was completed November 25, 1883, and rebuilding was completed March 13, 1884. The railroad later became part of the Colorado & Southern and the Georgetown Loop line was abandoned in 1939. The bridge has been torn down.

## Chicago & Calumet River

The engineer who has to take to the siding when making a meet on the Chicago & Calumet River Railroad has it all over the engineer who stays on the main, for this switching railroad has a main line only 1.94 miles long, while its sidings total 8.28 miles. The railroad connects with numerous line-haul roads in the Chicago area.

## Railroads produced war goods

You'd naturally think, if you thought about it at all, that the railroads had a big enough job on their hands during the war without taking on additional duties. Traffic was at an all-time peak, and equipment had to be maintained because new equipment was hard to get. Yet the railroads managed to devote part of their skilled shop forces to the production of such nonrailroad items as parts for mine sweepers, patrol boats, sub chasers and merchant vessels. They also helped build gun mounts, ship winches and airplane engine mountings. All this was done in addition to constructing and conditioning railway equipment for military operations, as well as taking care of their own equipment.

## Glue prevents load shifting

For several years shippers of cased goods have used a "bonded block" method of loading the cases in freight cars, overlapping the cases much as a bricklayer overlaps bricks. This strengthens the stacks of cases and helps to keep them from shifting during transit.

Now a glue applicator has been devised which further strengthens the load. As the cases flow into the car on a conveyor, they ride over two small wheels which apply narrow strips of glue on the bottom of the cases. Just as mortar strengthens the bricklayer's wall, so the glue strengthens the stacks of lapped cases. But because the glue is applied only in narrow strips, it doesn't interfere with unloading. The men who unload the cars merely tilt the cases and the glue lets go.

Glued unit loading is not restricted to shippers who use conveyors to load cars. Cases can be moved over a portable glue applicator by hand as they are removed from platform trucks and stacked in cars.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MODEL RAILROADER MAGAZINE
Dept. 9812B, Milwaukee, Wis.

**Canadian National Railways celebrated the 100th anniversary of the first train to operate over the Montreal & Lachine Railroad, now part of CNR, by distributing souvenir reproductions of the third-class token used by the Montreal & Lachine in place of cardboard tickets. A hole in the center of the tokens allowed the conductor to thread them on a long wire as he collected fares.**


# Railroad Movies

16 mm. - 8 mm.

Dynamic action-packed reels of gorgeous Kodachrome color film for the discriminating collector. Descriptions and prices listed. All films run 100 feet 16 mm. or 50 feet 8-mm.

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● EAST BROADTOP NARROW-GAUGE and HUNTINGDON & BROADTOP in a combined reel. A picturesque reel of backwoods railroads in Pennsylvania. Filmed in autumn, 1947.

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# Of books and trains

## *Railroading with Bartlett*

BY FRANK P. DONOVAN JR.

*It's* strange, isn't it, the unusual places you'll find references to railroading? One of the last places I expected to see anything about railroads was in Bartlett's *Familiar Quotations.* How wrong I was! After leafing through that 1578-page tome — which, by the way, is far from dry and reference-like — it was evident that the Iron Horse has a definite niche in American letters. In prose, in poetry, in song, the wide-awake editors of the new "Bartlett" have reserved a place for the railroad. Some of the old favorites and many of the new are tucked away in this monumental work of quotations culled from all parts of the globe.

It does seem a little incongruous at first to see Casey Jones (page 817) in the same volume with William Shakespeare, and excerpts from John Milton's *Paradise Lost* along with selections from Strickland Gillilan's *Finnigin to Flannigan.* To be sure, however, the world classics are discreetly separated by several hundred pages from the rail classics. Yet the latter are selected with as much care as are the old masters.

*Familiar Quotations* range railroadwise from Bret Harte's:

> What was it the Engines said,
> Pilots touching, — head to head
> Facing on the single track,
> Half a world behind each back?
> (page 644)

commemorating the opening of the Pacific railway in 1869, to Edna St. Vincent Millay's wistful lines: "There isn't a train I wouldn't take, No matter where it's going" (page 916). We have on the one hand light whimsical verse by Strickland Gillilan, and on the other, polished stanzas of Stephen Spender. Remember Gillilan's classic retort of the Irish sectionman when admonished by "Superintindint" Flannigan to make his accident reports brief? —

> Musther Flannigan: —
> Off ag'in, on ag'in,
> Gone ag'in. — FINNIGIN.
> (page 305)

That little gem first appeared in *Life,* the humorous forerunner of Henry Luce's illustrated weekly of the same name, and it soon received wide acclaim. But Spender's urbane piece of *The Express* "gliding like a queen, she leaves the station" (page 938) could well have had its first rights in the *Atlantic.*

To read some of these quotations is to drop back to the late 1840's when John G. Saxe exclaimed, "Bless me! this is pleasant, Riding on the Rail" (page 510). Saxe's verse was later put to music and I suppose it was sung just as "On the Atchison, Topeka & Santa Fe" is today. This in turn brings to mind that once popular engineman-author, Cy Warman. Oldsters will recall him as the lyricist of *Sweet Marie,* whereas railroad fans may not know he is credited with that old favorite *Will the Lights Be White* (page 717). The first stanza got under way like this:

> Oft, when I feel my engine swerve,
> As o'er strange rails we fare,
> I strain my eyes around the curve
> For what awaits us there,
> When swift and free she carries me
> Through yards unknown at night,
> I look along the line to see
> That all the lamps are white.

This of course was written when white, instead of green, was the standard color for a clear signal.

Bartlett, by the way, has tidbits from both Warman's song hit of yesteryear and his rail verse penned when a white light indicated "clear."

For my part, however, I'll pick Pheobe Hoffman's *The Freight Yards* (page 926) as the best railroad selection in the book. I'll go even further and state that it is the most "railroady" verse ever written by a woman. Here are some excerpts:

> In the long spring evening's twilight,
> when the sun is setting low,
> And the smoke from all the engines
> flushes up, a rosy glow,
> Then I come up to the bridge-head,
> watch the lights and net-work rails,
> Think of when I rode the freighters —
> engines spouting steam like whales,
> *D. L. W., Jersey Central,* old *Rock Island, Pere Marquette.*
> *Reading* coal cars down from Scranton, piled with anthracite like jet.
> *N. and W.,* the *Great Northern, Lehigh Valley, B. and O.*
> Like a giant earth-worm twisting,
> slowly 'round the curve they flow.
> Caravans of freight move westward,
> bearing eastern goods away —
> To come back with hogs and cattle,
> bales of sweet Kentucky hay.
> Brakemen walk along the roof-tops,
> Lingering for a moment's chat:
> There an engineer while smoking,
> long and eloquently spat,
> *L. and N., D. L. and W., Erie, Reading, P. R. R.*
> Riding on your sliding roof-tops,
> that's where joy and freedom are.
> See what I mean?

*Another* creditable distaff selection is the late Willa Cather's *Going Home, Burlington Route* (page 841), where she comments on "How smoothly the trains run beyond the Missouri." That critique is as true today as when it was written some 30 years ago. The fascination of the rail and the joy of traveling by train apparently knows no sex, no race, no locale, no time.

Langston Hughes, the gifted Negro poet, frankly states:

> Ever' time de trains pass I wants to
> go somewhere. (page 934)

and Joyce Kilmer laments "the midnight train is slow and old." but he does so with reverence and affection. Indeed, in reading his *The Twelve-Forty-Five* (page

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The picture of the train of cars shown above was reproduced from an artist's drawing.

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890) you'll see he liked trains — even the owl locals on the Erie. As a matter of fact, the only poet complainant in Bartlett, as far as railroads are concerned, is Edward J. Phelps. That eminent Vermont lawyer and minister to England under Cleveland is remembered for his metered diatribe of *Essex Junction*, "waiting for that delusive train, That, always coming, never comes" (page 551). Judging from other contemporary accounts of Essex Junction in the '80's, the old Vermont Central was none too interested in making connections, advertised or otherwise.

The two editors of the eleventh edition of "Bartlett," Christopher Morley and Louella D. Everett, have done very well by the railroad as they have with quotations at large. Even Don Marquis' little-known verse on Fontaine Fox's comic strip character, the Skipper, has a place in Bartlett. All Toonerville should know these lines by heart:

For I want to hire out as the Skipper
(Who dodges life's stress and its strains)
Of the Trolley, the Toonerville Trolley,
The Trolley that meets all the trains.
(page 851).

Finally we'll end up with a toast. Everybody recalls what the governor of North Carolina said to the governor of South Carolina. But how many people know it was a railroad prexy who first said "It's a long time between drinks"? It was John Motley Morehead, a Tar Heel governor about two decades before the Civil War and later president of the state-owned Atlantic & North Carolina Railroad, who uttered the much-quoted remark after a spirited discussion with South Carolina's Gov. James H. Hammond (page 786, note). Yes, there's nothing really quotable in the specialized realm of railroading which Morley and Everett have not brought to book.

**Familiar Quotations, compiled by John Bartlett. Eleventh edition, revised and enlarged, edited by Christopher Morley and Louella D. Everett, 1946. 1578 pages, 6½" x 9½". $6.50. Little, Brown & Company, 34 Beacon St., Boston, Mass. (Note: An essay on Bartlett also appears on pages 12-20 in Bulletin No. 59 of the Railway & Locomotive Historical Society, Baker Library, Harvard Business School, Boston, Mass., titled *The Railroad in Current Literature*.)**

# Train trek

## One-day circle trip

*Atlanta – Blue Ridge – Etowah – Atlanta, 300 miles, $6.27 including tax.*

A fine one-day circle tour for readers in the Atlanta area is over the old "Hook and Eye" line of the Louisville & Nashville to Etowah, Tenn., and return via the "new" road through Chatsworth.

Take Knoxville local train leaving Atlanta's Union Station at 8:15 a.m. After leaving Marietta the train runs over the old line locally known as the "Hook and Eye" because of the Hiwassee Loop or "eye" around Bald Mountain and the curve or "hook" at Tate Mountain.

The famous loop was constructed in 1898 and is some 8090 feet in length. It is said to be the third largest railroad loop in the world. Don't fail to be on the lookout for this interesting bit of construction just north of Farner, Tenn. After rounding the hill twice in the descent around the spiral the line follows the Hiawassee River for about 25 miles through some of the prettiest parts of the state.

At Cambria the old route joins the newer and shorter line connecting Etowah and Atlanta. Leave the train at Etowah and saunter about the town. You have almost two hours to get dinner before boarding the *Southland* for Atlanta. The "new" line over which the *Southland* runs is very attractive with some fine scenery but not the grades or sharp curves found on the "Hook and Eye." Between Junta and Atlanta the L&N uses the tracks of the state-owned Western & Atlantic, which in turn is leased to the Nashville, Chattanooga & St. Louis.

At Kennesaw, 8 miles north of Marietta, Andrews' raiders stole the locomotive *General* in a mad effort to destroy Confederate railroad bridges during the Civil War. The famous raid in which the Southerners pursued the *General* and finally overtook it is one of the most thrilling stories in railroad history. A granite marker in Kennesaw commemorates the ill-fated expedition.

Condensed schedule of trip:

| | |
|---|---|
| Lv. Atlanta, Union Sta., L&N | 8:15 a.m. |
| Ar. Etowah | 2:33 p.m. |
| Lv. Etowah *(Southland)* | 4:25 p.m. |
| Ar. Atlanta, Union Sta. | 7:30 p.m. |

# Interchange

*In the fall* of 1946 TRAINS offered prizes for the best photo stories in the railroad field. This month the story which won first prize appears on page 14.

The winner, Henry R. Griffiths, lives in Boise, Ida., where he manages the photo-finishing plant for Albertson's, Inc. Hank comes from a family with considerable railroad background. He took up photography in 1934 and "went professional" before the war. He spent 45 months in the Navy as a photographer's mate. He is 31, married, and one of the best known railroad photographers in the Rockies.

"At first I just shot engine pictures," he writes. "As time went on I began to realize what a big change was taking place in railroading, so I began a systematized picture record of short lines, branch lines, and engines that I knew would soon be gone."

He has covered all railroads in his own state, most western narrow-gauges, and a great amount of Union Pacific material.

"On the Union Pacific, my favorite haunts are King Hill and Medbury Hill, just east and west of Glenns Ferry, Ida., where the UP dips into the Snake River Valley for a few miles. The grades are heavy and all trains have helpers. The Blue Mountains in Oregon are second-choice haunts.

All the pictures in the story were made with an Eastman Kodak Special, size 616. Griffiths also uses a 4" x 5" Speed Graphic for heavy action, and shoots a 35 mm. camera for color transparencies. Mrs. Griffiths often takes the same picture in color while Hank handles the 4 x 5.

# Railroad photography

BY LINN H. WESTCOTT and W. A. AKIN JR.

*Are* you planning to get into the fun of taking your own railroad pictures? Maybe that Christmas check you may get will help. How about cameras?

Well, any camera can take a picture of a train or locomotive. But if railroads are your pet subject, there are some things to avoid. First of all, don't get a camera that uses 35-mm. film. Oh, we know the 35-mm. boys don't like to hear this. It's anarchy, especially since we own small-film cameras ourselves.

But, frankly, for railroad subjects you want detail. No matter what you do to make the detail come out on small film, doing the same thing on bigger film will work still better.

It used to be that 35-mm. cameras were easier to use and carry, and that they were the only ones that could take color pictures without the pictures costing too much. Today there are many cameras, just as easy to carry and use, that take a larger film, and good color film is available in size 120. Large-size projectors are also available.

If locomotives are important to you and color not so much, get a size 116 camera, or, better still, one that takes post card pictures. These sizes require no enlarging to get good studies of engines.

Getting into the higher brackets, a view camera is tops. The "swings" allow you to focus accurately on the rear and front ends of a train or locomotive in a three-quarter view. View-type cameras are at their best in the 5 x 7 and 8 x 10 inch sizes. A tripod is a must for almost every picture they take. Best thing about these cameras is that only the lens is expensive.

Newspaper-type cameras, Speed Graph-

**E. T. King took this impressive night picture. For details read "Railroad photography," below.**

ic, Pressman, etc., are favorites for the man with a car. They are bulky for ordinary hand use, since you must carry a supply of film holders along with the camera. The holders have to be loaded in a dark room or a changing bag, so steer clear of this type of camera until you know what you are doing. Film pack adapters are available for press cameras, but (up to now at least) pack film is plenty scarce.

When you buy a camera, you will find the kind you really ought to buy is more expensive than you had hoped, especially today. But if you buy a cheaper model and get the picture-taking spirit, you'll be back to the dealer for a better model before long.

To avoid the consequent loss of good money on the trade-in, we suggest making these things a minimum right at the start:

1. A rangefinder or reflex viewer to insure that you focus at the right distance. If you find these too expensive, buy a pocket rangefinder. The saved film will soon pay for it.
2. A lens with *f*4.5 diaphragm opening, or, still better, *f*3.5 or *f*2.8.
3. A fast shutter. Fast shutter speeds are a help if you plan to shoot moving trains. They are essential for shooting pictures out of train windows. 1/200 will just get by, but it is the best you can get on some press cameras.
4. Besides the camera, get an exposure meter. There are some who do well without a meter even with color film. We prefer to be more sure. With the calculator on the Weston meter there are some tricks you can do that will get you a good picture when nothing else will. GE and DeJur are also fine meters, and there must be others we are not familiar with.

We must give one regrettable bit of advice on buying new cameras today. Many are getting questionable factory inspection. Make sure your dealer will back up the camera with a guarantee before you make a payment. Used cameras are sometimes the better buy, but, like automobiles, some of them have been banged about a lot since before the war. Some cameras, like the Korelle Reflex, have been giving trouble because repair parts could not be obtained from Europe during the war. Check with your dealer about repairs on used imported cameras; the situation may get better as postwar adjustments are made.

*Chicago & North Western's* depot at Marshalltown, Ia., is the subject in the night scene above. The picture was taken two days after Christmas back in 1933 by E. T. King of 506 N. Wilson Avenue, Jefferson, Ia. King used a 116-size camera which makes a negative 2½" x 4¼" over the picture area. The exposure was made on Verichrome film with the shutter open four minutes in full moonlight. No record was made of the stop used but it was probably around *f*5.6.

Night pictures are not difficult to take with any camera if the shutter can be opened for a time exposure. With a box camera, use a fast film like Superpan Press or Super XX. With this film or even modern Verichrome the exposure can be even less than four minutes if the scene is well lighted. Verichrome film is now rated at Weston 50; back in the '30's it was rated at 16. Part of this change in rating is due to improvements in the film so pictures can now be taken more easily at night. Modern Superpan Press and Super XX rate a film speed of 100, more than six times as fast as 1933 Verichrome.

Be sure to put your camera on a solid foundation when making a time exposure, day or night. Any object that moves in the scene may show a blur; however, dark objects make much less trouble this way than bright ones.

If you have a fast lens, *f*2.8, *f*2, *f*1.5, or similar, you may even be able to stop some motion by using shutter speeds of ⅛ or 1/10 second when the snow is well lighted. All night work is a matter of experiment, so don't be disappointed if your first attempts come out poorly.

*Here* is a list of some of the photographers whose pictures appear in this issue of TRAINS:

F. J. Arthur, Schoolhouse, Fladburys Pershore, Worcester, Eng.
B. F. Cutler, Rail Photo Service, 93 Massachusetts Ave., Boston, Mass.
Thomas J. Donahue, 6 Pine St., Waterbury, Conn.
Ira H. Eigsti, Buda, Ill.
Donald W. Furler, 94 W. Main St., Glen Rock, N. J.
Philip R. Hastings, 22 University Rd., Burlington, Vt.
Robert Holden, Oshawa, Ontario, Can.
David W. Jefferies, Station BTBO, Cumberland, Md.
J. A. McLellan, 47-B Wavecrest Ave., Winfield Park, Linden, N. J.
R. P. Morris, 214 Gelston Ave., Brooklyn 9, N. Y.
Walter M. Pharr, 713 Cherry St., Macon, Ga.
Fred H. Ragsdale, Box 475 Big Bear City, Calif.
W. P. Ratchford, 1427 E. Mt. Pleasant Ave., Philadelphia 19, Pa.
H. D. Runey, 56 Arnold Ave., Horseheads, N. Y.
C. T. Steeb, Southern Hotel, 4th & "D" Sts., San Bernardino, Calif.
W. W. Stewart, 74 Fowlds Ave., South Sandringham, Auckland, S. W. 1, N. Z.
Dan Valentine, Rapid City Daily Journal, Rapid City, S. D.
James Walder, Rail Photo Service, 93 Massachusetts Ave., Boston, Mass.
Earl W. Walker, 640 Halston Pl., Erwin, Tenn.
A. C. Wislisen, Belle Fourche, S. D.


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# Second section

Some of our readers have protested against the new size of TRAINS because it won't fit their old looseleaf binders and because the new binders won't fit their bookshelves. We know just what they mean; we're having the same trouble with the bookshelves we had made expressly to fit the old binders. But all in all, we think the many advantages of the new size far outweigh the disadvantages. Could be, though, that we'll have to move to another floor at 1027 N. 7th Street so we can have some larger bookshelves made.

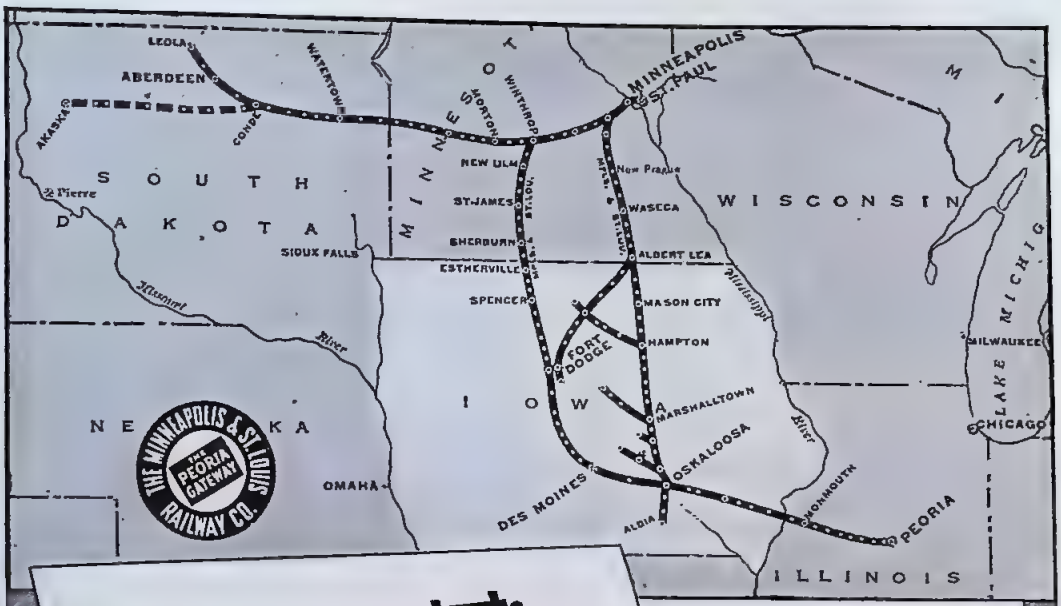
Those new looseleaf binders, by the way, are available at $2.50 each, postpaid. They have stiff board covers of red imitation leather, with wire fastenings to hold 12 issues. You'll find them practical and convenient for filing past issues, and when you come on one of those editor's insertions like "[November TRAINS]," it'll only take a moment to turn to the issue referred to. No more thumbing through a stack of out-of-sequence copies! Send your $2.50 today. If you need an old-size binder, we still have them at $2 each. Please specify "large" or "small" when ordering.

* * *

Another thing some readers didn't like was the fact that the change in size was made with the November issue rather than with the January issue. They keep their files by years, it seems — but we (and all other publishers) keep our files by volumes. The new volume of TRAINS began with the November issue, and that's why the change was made then.

* * *

Al Bergmann is Kalmbach Publishing Co.'s pressroom foreman, the man who supervises the actual printing of TRAINS and other Kalmbach publications. He has

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AL BERGMANN

had many a headache the past few months getting out 55,000 copies of TRAINS and 70,000 copies of THE MODEL RAILROADER every 30 days. That's equivalent to more than 1.6 million impressions on the three automatic magazine presses used. And it's in addition to other hundred-thousands of impressions on albums and books.

Bergie really had a headache recently in continuing to get out the magazine while our new rotary press was being installed to handle TRAINS in its larger size. Things are easier now that the new press is rolling. This new Cottrell press — $37,000 worth of it — handles 16 pages at once at a speed of 5500 an hour, and in two colors. That's running about 12 times faster than any one of the old presses could do. It enables us to give you a more colorful magazine, and makes it possible to print 100,000 copies of each of the two magazines. At the rate our circulation is increasing, it may not be too long until we reach that 100,000 mark.

The machine that Bergie's working on in the picture is a small cylinder press which we use to print office forms and other small jobs.

* * *

"It must be pretty nice to be an editor of TRAINS and travel all over the country on passes!"

How often we've heard words to that effect! But it isn't so. It *is* nice to be an editor of TRAINS, but the magazine — not the railroads — stands the expense of most of the editors' trips. Occasionally, as on a special press trip, the railroads do allow one free ride, and once in a great while a railroad publicity department may pay for a ride out of its own budget. But by far the greater percentage of TRAINS travel is paid for out of TRAINS' own budget.

* * *

For distinctive Christmas gifts, we suggest our new Ships and Sailing Albums. Book 1, "Mississippi Stern-Wheelers," is already available. Three new albums, "Great Lakes Sailing Ships," "Our Navy's Fighting Ships," and "New England Fishing Schooners," will be off the presses and ready for Christmas mailing by December 10.

# Running extra

[Send fan trip notices for the February issue by January 5; for the March issue by February 5. No charge is made for these insertions.]

**December 27-28:** Carriso Gorge holiday. Excursion 6 of the Railway Club of Southern California. Leave Los Angeles via SP at 12:30 p. m. December 27, as Second 2, the *Sunset Limited*. Stops to be made at Pomona, Colton, Beaumont, and Indio. Train will stop overnight at Yuma, Ariz., leaving at 6 a. m. December 28 via Inter-California Railway to Mexicali, Mexico, then to El Centro, Calif. From El Centro to Lindero via San Diego & Arizona Eastern through Carriso Gorge; Lindero to Tijuana via the Tijuana & Tecate to National City and San Diego. Return to Los Angeles via Santa Fe, arriving at 10 p. m. December 28. Fares: coach, $16; intermediate, $20; standard, $23. Send for brochure giving Pullman rates. Schedule is arranged to allow ample time for photographs at all points of interest in both the U. S. and Mexico. Train will leave California three times and enter Mexico twice in one day. Total mileage, 597. Railway Club of Southern California, P. O. Box 116, Los Angeles 42, Calif.

**January 1 (approximate):** Youngstown & Southern. Final fan trip over all electrified trackage. Date depends on when passenger service will end. This is the last of the Ohio interurbans. For details contact Secretary, Akron Railroad Club, 477 E. Market St., Akron 4, O.

# Railroadiana

The *Official Guide* is the world's largest pulp magazine and, except for *Railroad Magazine*, easily the most interesting. It is a monthly publication of some 1500 pages. You'll never find it on a newsstand, but every ticket office has a copy. The full title is *The Official Guide of the Railways and Steam Navigation Lines of the United States, Porto Rico, Canada, Mexico and Cuba; also Time-Tables of Railroads in Central America,* but if you asked for it by that name in a ticket office the agent would think you were nuts. He'll think you're nuts anyway if you just ask to see the *Official Guide,* but that's one of the quickest ways to see a copy of this intriguing volume. You'll also find it in railroad lounge cars and larger public libraries.

Strictly speaking, the *Guide* is a utilitarian volume. It is an independent publication, issued by the National Railway Publication Co., 424 W. 33rd St., New York 1, N. Y., as a means of keeping railroad personnel up to date on timetables on a national basis. Anyone can subscribe or buy the latest monthly copy at the regular rate of $24 per year or $3 per copy.

When you want to plan a trip the *Guide* is invaluable. The timetables include almost every railroad having any semblance of a schedule, certainly all the roads you might want to ride upon. The important electric interurban lines are mostly there, with the conspicuous exception of the Liberty Bell Route. Everything is neatly indexed in the front, and in the rear of the book is a complete index of railroad stations, indicating what railroads serve them and the timetable number giving schedules at each station. If several railroads serve the same city, the *Guide* helps the traveler plan his connections by indicating which railroads use which stations, and by giving the distances between.

For an evening of armchair traveling the *Guide* is real fun. It makes little difference, for that purpose, whether it's old or current. In fact, a *Guide* a couple of decades old allows much more leeway for fascinating branch-line routings, although the up-to-date *Guides* allow one to armchair his way over more miles of main line in a shorter time via the streamliners. The names of many of the trains carry an aura of romance. In fact it's not hard to imagine that in some cases the names in the *Guide* make the trains seem much better than they really might be. The consists can lead one into endless hours of figuring to see how a lounge-solarium-diner gets back if it doesn't run both ways on the same train. Or, since most consists now include Pullman car run numbers, they reveal the recent change to run numbers which always start with the train number, so that you can tell right off that NYC Pullman number 2601 is on No. 26, the *Twentieth Century.*

But the real connoisseur looks to the footnotes. Here he runs across such gems as: "*r* time shown is for Post Office," or "*l* arrives and leaves from Condo's, Claremont." Or you may find that Boston & Maine No. 106 from Haverhill to North Station is a ":Workingmen's train." Just how that's different from any other train is difficult to say, unless in Boston more people than ordinary don't work.

The Akron, Canton & Youngstown timetable lists Barberton, but the footnote lets us know that Barberton is only "reached by switching arrangements with the A&BB RR."

The *Guide* isn't a picture book, but it does have ads worth looking at. From time to time roads take extra pages in addition to their listings and publicize new schedules or new equipment. The copy is directed at ticket agents off line rather than at the traveler, and sometimes it is done with an informality that is noteworthy. The Katy, in the current issue, has a cartoon of a couple at a lounge car table enjoying a sudsy quart of beer served in a filling-station lubricating-oil measure with flexible spout! The woman in the sketch has very thin skirts just a bit over the knee. An "artist's note" points to the skirt length and explains, "Of dubious fashion authenticity, but a model member of Dallas 'Little Below the Knee' club."

What will you find in the *Guide*? It might be anything. Perhaps no man alive except A. J. Burns, the publisher, knows everything that's between those tagboard covers. But we can bet there'll be something to specially tickle your fancy.

# Trains quiz

### Whose train was it?

During the war, a short freight train was seen in Chicago with the following consist:

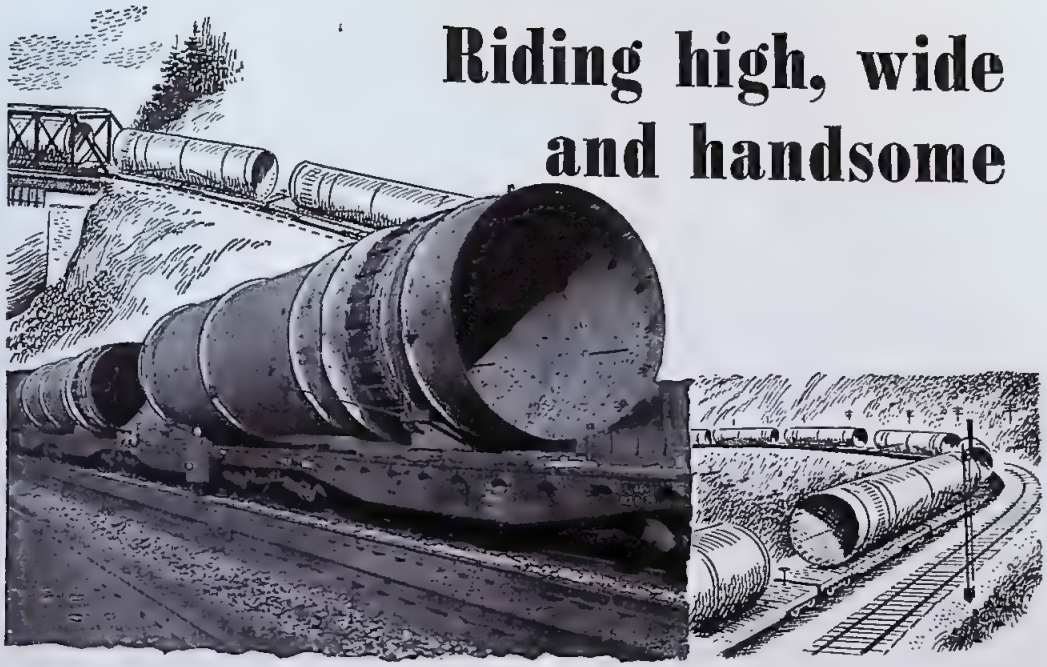
C&NW engine 2368
One Illinois Central box car
C&EI caboose

The train was on tracks owned by the Belt Railway Company of Chicago.

Whose train was it? Chicago and North Western? Illinois Central? Chicago & Eastern Illinois? Or Belt Railway of Chicago?

*Answer on page 63.*

# Riding high, wide and handsome



● This giant kiln, 426 feet long and nearly 13 feet in diameter, is used in cement making. Dividing it into seven sections solved part of the problem of shipping it by rail, but still there remained the question of clearances.

Would its size permit passing freight cars on adjacent tracks and through bridge openings? Clearance engineers assured the manufacturer that it would *—if shipped on the Erie!*

For clearances on the Erie are higher, wider than on any other railroad between Chicago and New York. Important too, the Erie has men skilled in dealing with huge shipments in a wide variety of shapes and dimensions.

But large or small, *every* shipment on the Erie receives careful attention that results in *safe, dependable* transportation. That's why shippers everywhere say "Ship it Erie."

# Erie Railroad

**SERVING THE HEART OF INDUSTRIAL AMERICA**

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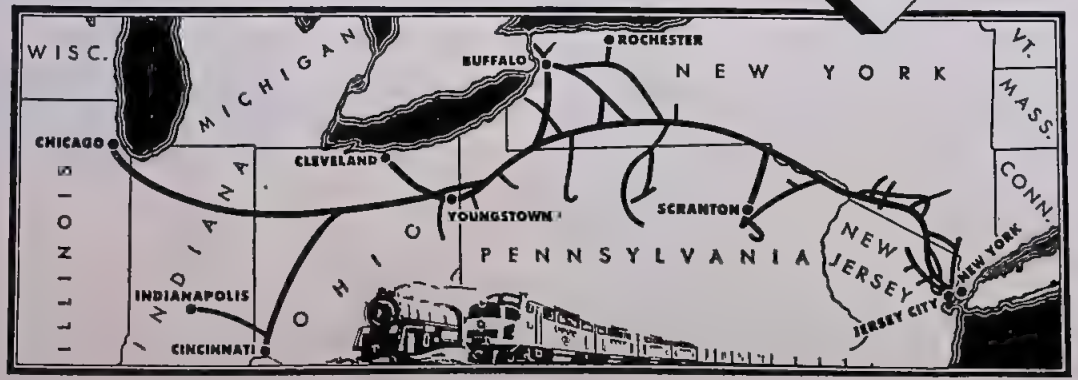

# Railway post office

### Branch line passenger trains

I do not agree with your defense of current railroad policy as summed up by Mr. Budd's statement that the Burlington would cut off 10,000 miles of branch line passenger trains if he could get permission (page 4, September TRAINS).

There is no doubt that traffic on many branch lines has fallen off so that the trains are operated at a loss, but Mr. Budd does not express an opinion as to why that is so, or what the railroads did to prevent it. If a railroad does little or nothing to find out what is wrong with its branch line service, and does not attempt to provide clean, comfortable equipment on reasonable schedules, convenient for the patrons, it has no right to say "branch line service does not pay."

I know nothing of the problems of the "Q," but I do know the thinking of some railroad executives, who believe it easier to eliminate an unprofitable operation than to find out why it does not pay, and try to make it do so.

A railroad must have the will to serve all of its customers — not merely the patrons of its crack trains — if it is to become great. It must give the same amount of thought and effort to the improvement of its services and the creation of revenue as it does to the reduction of expenses. The same principles apply to the production and sale of transportation as to any other commodity or service.

*Thomas T. Taber.*

43 Hillcrest Road, Madison, N. J.

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### British railway nationalization

All railroad enthusiasts in this country [England] do anything but look forward to the impending nationalization scheme. We fear that eventually the roads will lose their distinguishing characteristics and whether one goes east, west, north or south one will see nothing but standard locomotives in dull black livery.

I sometimes wish that I lived in the early days of the present century. Some railroads had beautiful engine liveries. The Caledonia (now LMS) had a beautiful sky blue, the Somerset & Dorset (now LMS) a deep blue, the North British a rich brown, and the London, Brighton & South Coast (now Southern) a light brown.

*Kenneth Bailey.*

15, Ryelands St., Hereford, England.

### Air vs. rail in the schools

Probably you have heard of the Committee for Air Age Education. In my opinion this is one of the cleverest and most effective "educational" activities that the aircraft industry has promoted. This organization has enlisted the names and support of various college and public school educators in the move to make the younger generation more air-minded.

As one who on numerous occasions has heard college educators solemnly declare that their institutions must be impartial and free from any pressure of "special interests," I am amazed to see how some of these gentlemen have gone overboard on propaganda from the aviation people.

No doubt some of these educators are quite sincere in their belief that more airmindedness among students is one cure for the world's ills. These gentlemen are usually specialists in other fields of study and just don't have a balanced picture of transportation. Others have been encouraged to lend their names and support to the air age education front by accepting appointments to high-sounding "advisory committees" on air policy matters. These honorary offices entitle them to a few air trips across the country at no expense to themselves.

If the railroads want fair treatment from the public, they had better adopt some of the public relations techniques employed by their competitors. Also, they should be more aggressive in dealing with that spoilt child of American industry, the aviation business. The SP and the B&M have done some fine work in cleverly answering some of the half-truths and innuendos which are so often found in air-line advertising. The Santa Fe does some good work in providing information and material on railroads for schoolteachers. Whatever faults Robert R. Young has, he at least is making some effort to develop that latent interest in railroads that nearly all children have. Why don't other managements pay some attention to these future customers of American transportation agencies, and to their teachers?

*Walker S. Edwards.*

1323 E. Amhurst Circle, Englewood, Colo.

### A long service record

I retired from active duty as joint agent of the Western Railway of Alabama and Central of Georgia Railway on May 15, 1947, at the age of 87 years. I have a record of 74 years plus, continuous, with the exception of a few months. My railroad career started as a messenger for the old South Carolina Railroad (now Southern) January 1, 1873.

*W. D. Lowry.*

201 Pine St., Montgomery, Ala.

[Mr. Lowry's record is almost as long as that of the late "Soda Ash" John M. Horan, who was with the Milwaukee Road almost 83 years. See July 1947 TRAINS, page 68. — *Ed.*]

### Automobile engines run locomotive

The only exclusive coal carrier in Texas operates with a locomotive powered by eight 100-horsepower Ford V-8 motors. This is the Rockdale, Sandow & Southern, running between Sandow and Marjorie, where it connects with I-GN.

This engine can handle five loaded coal cars and has pulled as many as seven.

*A. F. Von Blon Jr.*

1700 West Ave., Waco, Tex.

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& Catalogue
For beginners and experts . . . . . shows how to start a Model R. R. Layouts, Equipment, etc. ILLUSTRATED.
Send 50¢ for Dept. T
MANTUA METAL PRODUCTS CO., INC.
Woodbury Heights, New Jersey.
"Pioneer & Leader in HO Gauge"


*More Railway post office on page 63.*

## The New Haven's "Naugatuck" has one short leg Photo on page 62.

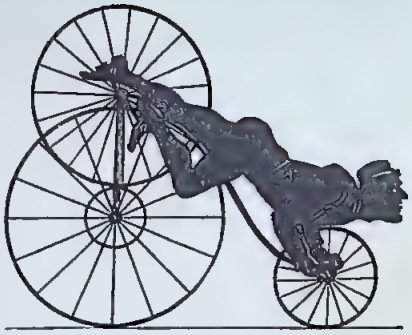
The New York, New Haven & Hartford Railroad has a named train which runs in two directions, but in one direction it goes farther than in the other. It is the *Naugatuck*, which leaves Winsted, Conn., at 6 o'clock every morning except Sunday for the 116-mile run to New York City. On this trip it is known officially as train 153. At 4:05 in the afternoon, train 158 leaves New York as the *Naugatuck*, but ties up at Waterbury, Conn., 87 miles from New York, rather than at Winsted. Train 153 was following Pacific 1027 out of Waterbury when this picture was taken. Besides the class I-1 locomotive, the train consisted of one R. P. O., six coaches.

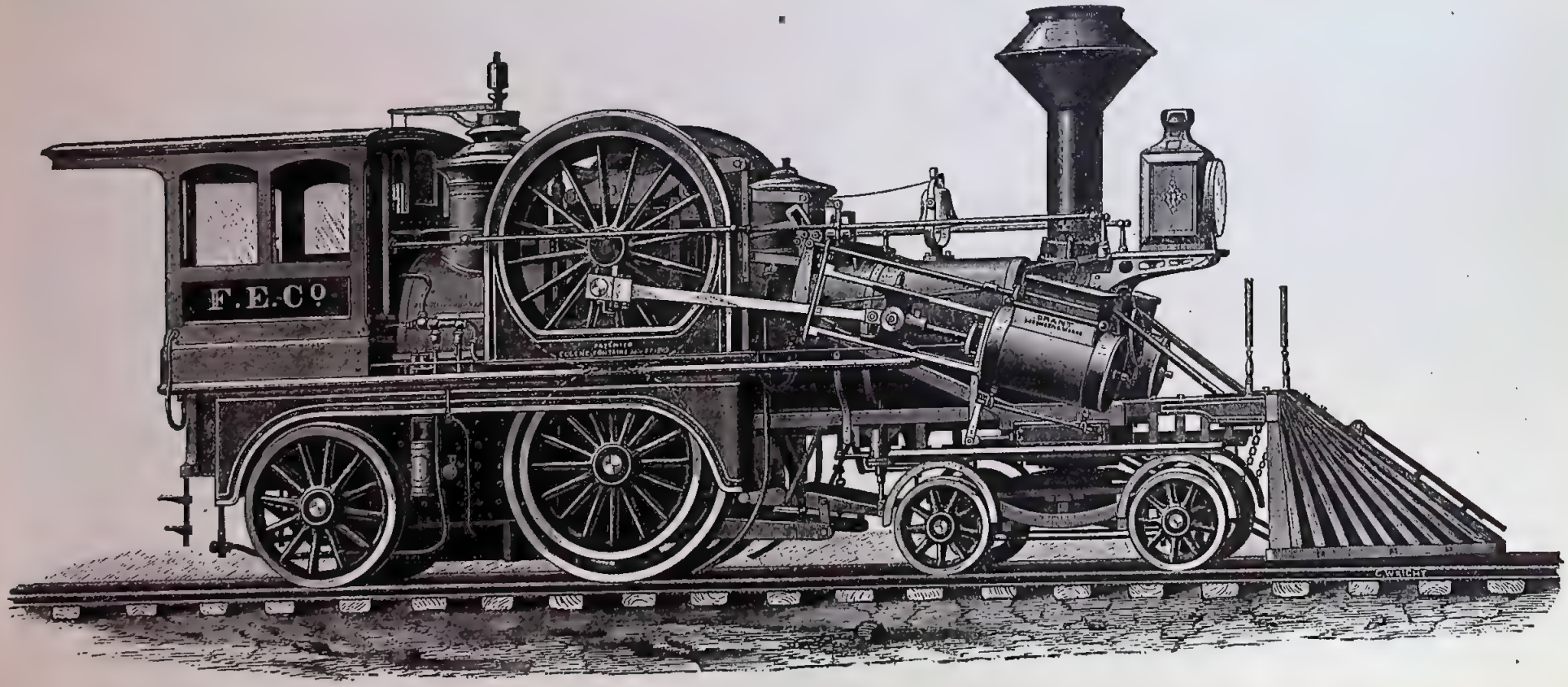
Thomas J. Donahue.

## The Fontaine locomotive, or, How to get something for nothing

When Eugene Fontaine invented the locomotive shown below, his object was to increase the efficiency of the reciprocating steam locomotive. Between the piston and the driving wheels he interposed a series of different-sized wheels to act as a chain of toothless gears which, he thought, would make his locomotive with 70-inch drivers do the work of an ordinary engine with 90-inch drivers. What Fontaine forgot was that while a two-pulley block and tackle will allow a man to lift twice as much weight as he can with a single pulley, he must pull the rope twice as far to do it.

Fontaine's locomotive was tested on the Canada Southern Railway in 1880 and 1881. Division Superintendent Murray asserted that no standard engine on the road equaled the Fontaine in pulling capacity. Another Canada Southern man, John Ortton, attempted to prove that the locomotive actually developed more power than was put into it, but *Railroad Gazette* finally brought the matter to an end with a letter describing a "new-type velocipede" which "reinforces the power of the operator by means of the duplex action of his legs and arms, the backward thrust of the former propelling the vehicle by the rotation of the crank, while his arms simultaneously are pushing it forward."





### Wanted: A Twin City railfan club

If anyone is interested in forming a fan club in the Twin Cities area, I'd be glad to cooperate.

*John Johnson Jr.*

1387 Albany Ave., St. Paul 4, Minn. Phone NE 5786.

### Open-platform observation cars, again

I can truthfully say I am glad to see open-platform observation cars passing out of the picture and being replaced by modern, completely enclosed cars. The new cars are much more comfortable, cleaner and better in every way. The open-platform cars are probably O. K. on short runs and special excursions, but definitely not on fast through runs.

*Everett Wortman.*

2034 S. E. 24th Ave., Portland 15, Ore.

One of the articles of special interest to me was "Symbol of a Passing Era," in August TRAINS. Whenever I am fortunate enough to ride a train carrying an open observation (which is seldom), I find there are many passengers, like myself, who are eager to crowd out on the platform, smoke and dirt notwithstanding.

To take those grand cars, rebuilding them into closed-in "solariums" and run them backwards in the middle of the train, is simply ridiculous. If they must be "solariums," then why can't they at least be operated on the end of the train where they belong?

*William G. Guernsey.*

8029 Farehold Dr., Hollywood 46, Calif.

# Quiz answers

### Answer to Whose train was it?

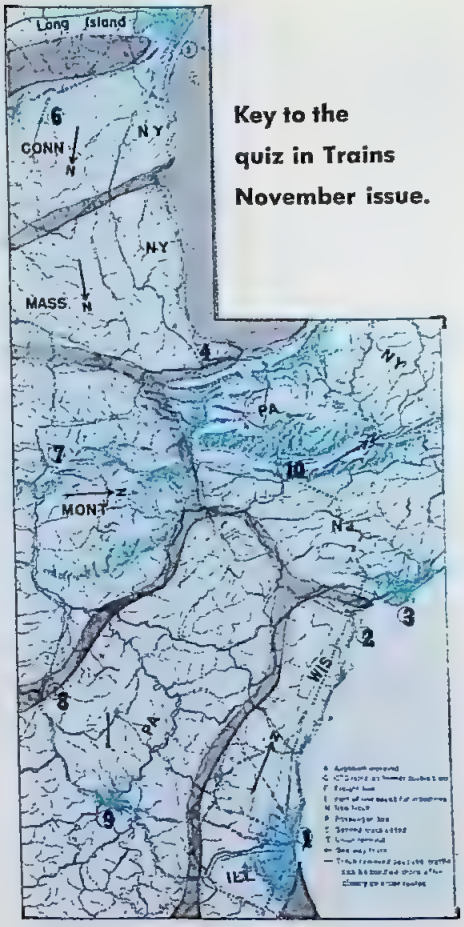
*Page (58.)*

It was a Chicago & Eastern Illinois train; the caboose determines the operating line. The IC box car was moving in regular interchange. C&NW leased engine 2368 to C&EI during the war. The C&EI operates into Chicago over Chicago & Western Indiana and Belt Railway tracks.

### Answer to quiz in November issue

*(Page 58.)*

Diagram (right) shows how the artist made up the composite map on page 6 of November TRAINS. The cities were 1. Chicago; 2. Milwaukee; 3. Jersey City; 4. Wilkes-Barre and Albany combined; 5. New York; 6. Derby, Bridgeport and New Haven; 7. Butte; 8. Bozeman and New Castle combined; 9. Pittsburgh; 10. Stroudsburg. The New York to Albany region at the top is broken into two misaligned parts, and the land that is west of the Hudson River is omitted, making a seacoast of the east bank. Long Island Sound was filled in, thus putting New Haven and Bridgeport on dry land. The city names identify the other regions, while the gray bands show the areas of nonconformity.




**Key to the quiz in Trains November issue.**

*Some vital statistics*

**ABOUT LIMA-HAMILTON CORPORATION**

The stockholders meeting of Oct. 1, 1947 that brought into being the Lima-Hamilton Corporation combined two of the country's oldest and best-known manufacturing concerns in the heavy equipment field.

**LIMA LOCOMOTIVE WORKS**— has been a large producer of steam locomotives for 78 years. In 1925 this company introduced the now famous "Experimental A-1" the forerunner of today's super-power steam locomotive. The Lima Shay Geared locomotive was a factor in the revolutionization of the logging industry. The company's wartime products included tanks and locomotives for the U. S. Army as well as locomotives for the reconstruction of France, Poland and China.

**GENERAL MACHINERY CORPORATION** — with origins dating back to 1845, has a well established reputation in the diesel engine business. The "Niles" line of heavy and medium machine tools for railroad use is widely known throughout the industry. For the past four years General Machinery has been engaged in extensive development work with a free-piston gas generator turbine for the engine field and use in locomotives, ships and stationary power plants.

LIMA-HAMILTON CORPORATION plans to manufacture the Lima-Hamilton Diesel locomotive as well as a complete line of steam locomotives and a comprehensive line of heavy railroad and industrial equipment. In addition, it is planned to continue the development work on the free-piston gas generator turbine for locomotive use. Facilities of the two companies (within 100 miles of each other) is expected to complement manufacturing lines and effect economies in operation.

**LIMA-HAMILTON CORPORATION**

WORKS Lima, Ohio
Middletown, Ohio
Hamilton, Ohio

*With the following divisions*
Lima Locomotive Works • Niles Tool Works Co.
Lima Shovel & Crane Division • Hooven, Owens, Rentschler Co.

# The fascinating story of Mr. Young and the NYC as told in verbatim testimony before the I.C.C.

Probably the most fascinating railroad literature of the era is the verbatim transcript of Robert R. Young's testimony before the I. C. C. on his petition for permission to accept a seat on the NYC board. Young, who is chairman of the Chesapeake & Ohio board, and Robert J. Bowman, president of the C&O, have both been invited to sit on the NYC board. They also wish I. C. C. permission to vote C&O's 6 per cent stock interest in NYC. This stock is now impounded in a voting trust with restrictions which prevents C&O from voting on appointments of directors to NYC.

The railroad barons of old carried on their machinations in the dark. If Vanderbilt wanted to buy and vote stock in another road, or if Gould wanted to sit on several boards at once, he did not need to seek the nod of the Commission. But now Young must carry on his railroad strategy under the klieg lights of public hearings. Not that he minds it, of course. He is an expert at using publicity, and when asked a question that he might dispose of in a sentence, he is likely to use it as a springboard for a 10 or 15 minute oration on banker control, or his ideas of passenger service, or his opinion of the Association of American Railroads. That is what makes the transcript so very fascinating.

Young had hardly started before the Commission when he made crystal clear his opinion of other railroad management. When he was asked for a brief résumé of his experience prior to entering the railroad field, he ended his answers with this voluntary statement:

*Young:* "In 1936 and 1937 I, like most men, had the idea that some day I would like to retire, and being independent, I retired. But of that I very quickly tired, so looking for the easiest berth I could find, the berth I could make the greatest record with the least effort, I chose the railroad business."

Asked when the C&O-NYC merger proceedings were formulated, Young expanded upon "how" as well as "when":

*Young:* "About 1945, I believe. About that time Mr. Bowman came to me and said he was sorry that the Nickel Plate had decided not to join the C&O system, but urged me not to feel too badly about it, because there was a better railroad, the NYC, which was more ideally fitted and more complementary to the C&O really than was the Nickel Plate."

But, the I. C. C. asked, did Mr. Young give consideration to the competitive position of a C&O-NYC combination before buying NYC stock?

*Young:* "Yes. . . . Those studies convinced me that a merger of the C&O and the NYC would come nearer to approaching an ideal than a merger between any other two railroad systems in the country. I looked at the Pennsylvania and the Norfolk & Western and the Wabash and saw that in eastern territory there was no railroad with terminals, access to coal, and harbors on the lakes and ocean except the C&O and NYC which could really give the great Pennsylvania system some real competition, and I might say that there are intangible factors of competition . . . as well as physical factors."

### How C&O bought into NYC

When the 19th century railroad strategists wanted to control a road, they bought stock on the quiet, the less known about it the better. But hardly Mr. Young. He volunteered to the Commission the manner in which he acquired NYC stock:

*Young:* "Seeing the [NYC] stock go down to [16], and knowing that the NYC was the finest railroad property in the richest country in the world, and knowing that it was being kicked around in the street for virtually 10 cents on the dollar, I did not feel that the C&O could make any mistake in putting its money into it. . . . First making it clear . . . that we were looking at the NYC and thinking about buying some and having announced our intentions and put the NYC stockholders on notice, we went out and acquired in the open market some 400,000 shares at a cost of about $18 a share. . . . . I thought we might have some difficulty getting representation on the NYC board even with that large ownership, but I was gratified and pleased a few months after to receive an invitation . . . for Mr. Bowman and me to go on the board of directors."

With only 6 per cent of stock and only two seats on a 15-man board, how does Mr. Young expect to have much effect on NYC management? For one thing, his wide advertising needling the railroads on various practices has obviously not been altruistic. If nothing else, it has set him up in the public mind as sort of a Saint George who Slew the Dragon, and he can expect to get a great many supporting proxies from small stockholders. What's more, as Young frankly told the Commission, advertising can influence management through public sentiment, and he counts on advertising to help him swing the rest of the NYC board to his ideas.

### The power of advertising

*Young:* "We found, without any stock ownership whatever, that we were able to bring about competitive bidding [for railroad bonds], even though the NYC and the Pennsylvania and the Union Pacific opposed it, because they had other interests. But we were able to bring that about because we went over the heads of these people and appealed to the public.

"After we finished in that field we moved over into the field of operation and we decided that the railroads could do with through service. Again, without ownership or being on the board we were able to get through service. We did it through a few advertisements. [A matter of opinion. Many railroaders say the through service was about ready to announce anyway.]

"You may not have heard about our new central reservation bureau, by which anybody can drop a nickel in a slot anywhere along the C&O and reach the central reservation bureau in Huntington, reserve his space and never go near the ticket office at all but board the train a month hence and there is his ticket waiting for him. We are going to do that on the C&O. We would like to see the Central do it. They can benefit much more from it than the C&O.

"But we found that [with] these suggestions and these other things that we were trying to get through the association . . . we couldn't get anywhere that way, so we decided to buy 400,000 shares of Central stock to go on the board of the Central."

Following a comment [by Mr. La Roe] that "in all frankness it seems the newspaper advertising does work," Young made an admission:

*Young:* "Well, that doesn't always work. It hasn't worked in this freight agreement. You remember that Rip Van Winkle ad? That is four weeks old and it hasn't worked yet. I am getting impatient."

### Comparative Statistics of C&O-NYC and PRR-N&W-Wabash

If the Chesapeake & Ohio (which now includes Pere Marquette) is allowed to eventually merge with NYC, its principal competitor would be the Pennsylvania Railroad–Norfolk & Western System, which now also controls the Wabash. On the basis of 1946 figures these roads and systems compare as follows:

| | NYC | C&O | NYC-C&O Total | PRR-N&W-Wabash Total |
|---|---|---|---|---|
| Miles of road | 10,976 | 5065 | 16,020 | 15,338 |
| Miles of track | 24,171 | 9582 | 33,753 | 34,973 |
| Operating revenues (000 omitted) | $644,687 | $244,094 | $888,781 | $1,084,615 |
| Number of employees | 128,023 | 36,483 | 164,506 | 185,344 |
| Number of locomotives | 3600 | 1178 | 4778 | 5682 |
| Number of freight cars | 134,913 | 88,428 | 223,341 | 318,048 |
| Number of passenger cars | 4534 | 564 | 5147 | 6049 |
| Tonnage of bituminous coal (000 omitted) | 60,691 | 72,530 | † | 91,631 |
| Percent of coal originated | 25% | 82% | 56%* | 53%* |
| Revenue per ton of coal (as 1943) | $1.19 | $1.48 | ——— | $1.39‡ |
| Passenger revenue (000 omitted) | $148,109 | $13,681 | $161,791 | $247,744 |

†This figure would not be a sum of NYC and C&O since some C&O coal would also be in NYC total as present interchange traffic.
*This figure is a weighted average of present originated traffic and does not take into account duplication of statistics representing what may be the same cars of coal on two or more roads.
‡PRR only.

After further amplification of his methods of using persuasion rather than stock control to get things done, Young was asked directly whether he felt that once he got on the NYC board he could make very substantial changes in policy.

*Young:* "I am so confident of it that I am just dying to get there."

### What Young would do on NYC

Just what would Young want to do with NYC if he were able to make policy changes?

*Young:* "I should say the first thing the Chesapeake & Ohio would set out to do would be to improve the passenger service on the New York Central, improve its equipment, its dining car service, its treatment of passengers in terminals, in waiting lines and places of that kind.

"That improvement in service would go into such things as through service at Chicago. We would endeavor to connect all the New York-Chicago trains of the NYC with through trains through both Chicago and St. Louis.

"We would endeavor to sell the NYC on the idea of the new lightweight train which the C&O is presently working on, which weighs only a fifth as much per passenger as present trains, which is 3½ feet lower, 6 inches wider, and is rubber cushioned and can travel at speeds of 100 miles per hour a lot more safely than present equipment can travel 60.

"I think with that type of equipment general on the NYC, it could be made far more prosperous than the C&O is because we can only haul our coal one way, but when you haul passengers, you can haul them both ways; and when you haul a ton of coal, you can only haul it once, but if you give passengers service, you can haul them back and forth two or three times a month. So, instead of the NYC looking at the C&O coal traffic with envy, I look over at them with envy and dream of what I could do with their opportunities.

"Now, on freight, I would like to see high-class freight travel at high speed, I would like to see the fruits and vegetables of Florida and Texas and California move into the Chicago and New York markets while they are ripe, because I just cannot digest this green fruit that you pay 25 cents apiece for. There is no reason in the world why freight train equipment cannot travel at fast passenger train speeds, and that would be one of my prime objectives on the NYC."

### Young on branch lines

Young's Federation for Railway Progress has been taking the Pennsylvania Railroad to task for proposed abandonment of passenger service on the Octoraro branch, so his comments on the unprofitably of branch line service and its effect on over-all passenger earnings are particularly pertinent:

*Young:* "I heard a witness say here this morning, or imply, that the railroads lose money on their passenger business. As a matter of fact, when I got on the train coming down here last night, I saw a placard in the Pennsylvania Station showing that the cost of passenger train operation had gone up and crossed the rate line which had gone down and went on to say, 'Do you people know that the railroads lose money on their passenger business?'

"Well, you can state all kinds of lies in averages, and that was an average. Maybe the railroads do lose money on their passenger business, but they lose it on the branch lines and those smaller units of service which must be maintained to maintain the community, and which pay their way not through passenger fares, but through the freight they contribute to the railroads, and through the contribution they make to the general good of the economy.

"Nobody can tell me that through trains of the railroads are not making money today because I know they are, and if they would just put some more through trains in operation, they would bring up enough profit in their passenger operations to more than absorb losses of these necessarily uneconomic branch lines."

But what makes Sammy run? Just why is Robert Young so fanatically critical of other railroad managements? He is in his own words a rich man. Then how does he distinguish his own brand of "banker" control from what he terms "dambanker" control? He puts the distinction upon ownership as well as management. He went into it at some length and almost embarrassing directness before the Commission when asked about his salary:

*Young:* "I decided when I came into this picture in 1937 that I was going to profit with the security holders, and no one else. As a matter of fact, the combined salaries of $27,500 which I receive from the Allegheny System as a whole, I am confident, do not cover my expenses in connection with the company's business and I render no expense accounts, so that from the standpoint of salary and emolument I get nothing from the C&O or the System.

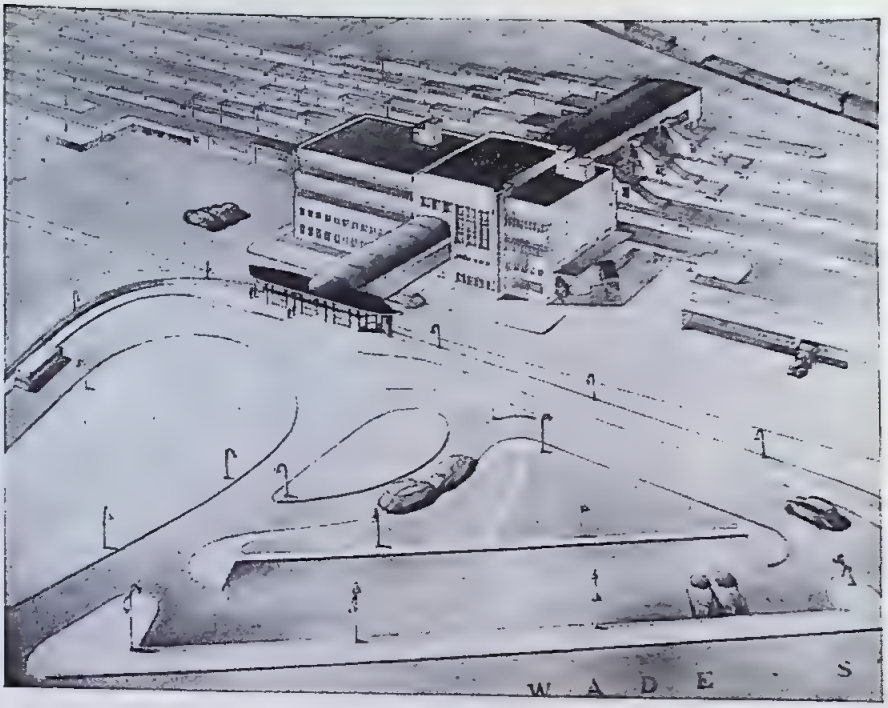
"I have made it a principle and a rule that I would not engage in any business which was adverse to the railroads, engage in no outside business, and the only possible hope for gainful advantage in any of my railroad connections is through the appreciation of my railroad securities. I am sorry to say that this group that controls these corporations . . . not only have no interest in them — and I am going to give you the details of their lack of interest — but they have adverse interests.

### Management without ownership

"I realize that under today's present tax system which, if continued a few more years, will mean nobody owns anything — I realize that under that system our great corporations have got to evolve into non-ownership management, but I do not subscribe to the view that we have to turn those corporations over to managements which have an adverse interest.

"Frankly, I think when that situation develops if we are going to have bureaucracy I would rather have governmental bureaucracy. At least you can keep your eye on it there and you can catch hold of it and deal with it, but this industrial type of bureaucracy which never comes up for re-election, that goes on for generation after generation behind the scenes, that is something which I think is harmful."

Plainly Young's pique is not at bankers as such, but at certain bankers. Young himself has not only made good use of other people's funds (his financial structure is built largely on the funds of Allan P. Kirby, the Woolworth heir), but he is apparently an expert himself at con-




**Work has been started in Toledo on a new Union Station to replace the old structure which was built in 1886. The new building will be in the same location as the old, and first work will be on track rearrangement. Streets approach on two levels. The building will be of brick, with limestone trim and a generous use of glass, consistent with Toledo's position as a glassmaking city. New York Central officials estimate the new station will be in use within two or three years.**

trolling a company without much ownership at all! He now owns no common stock and only 2½ per cent of the nonvoting preferred stock of Allegheny Corporation, and Allegheny only owns 6 or 7 per cent of C&O. C&O owns 6 per cent of New York Central.

The Young state of high dudgeon seemingly dates from the Allegheny loss of control of Missouri Pacific in reorganization proceedings. As in any other case where the owners can't pay the mortgage interest, the bondholders sought to exercise their contract rights. Young blames it all on the insurance companies and banks which held the bonds, but his sometimes inconsistent statements would lead one to think that he would do the same if the shoe were on the other foot.

The real meat of C&O's case was presented to the Commission by experienced and capable railroad men in C&O management, men like President Robert Bowman, Senior Vice-President Ross Marshall, Finance Vice-President W. H. Wenneman, and Assistant to the President Carleton Meyer. They got away from the rambling theory of Young and down to brass tacks. For whatever Young may think of practical railroad men in general, he carefully chooses men who have grown up on the railroads to run his own company. The only difference is that on the C&O they work in an unusual atmosphere of "precedent be damned."

### C&O-NYC were related in 1900

President Bowman started his testimony by showing that the NYC and the C&O have a historic unity of interest, dating back in fact to an actual affiliation in ownership.

*Bowman:* "During the 1890's, the Big Four (Cleveland, Cincinnati, Chicago & St. Louis), now an important leased line in the New York Central System, and the Chesapeake & Ohio were both so-called 'Vanderbilt roads.' In 1889, the new directors of a reorganized Big Four included William K. and Cornelius Vanderbilt, Chauncey Depew and J. P. Morgan, who joined the Big Four's president, M. E. Ingalls, in that venture. Ingalls had become associated with Collis P. Huntington in C&O and persuaded the Vanderbilt group to buy a substantial stock interest in the C&O. Ingalls at about that time also became president of the C&O. During Ingalls' presidency, the two roads created the Kanawha Dispatch Route, which afforded a fast freight line between Hampton Roads and the Middle West.

"About 1900, changes were made whereby the NYC and the PRR jointly acquired a controlling interest in the C&O. At the same time, the Pennsylvania had a large stock interest in the Norfolk & Western. When it became apparent that public policy would not countenance Pennsylvania's continued control of both of these Pocahontas carriers, the Pennsylvania elected in 1906 to sell its interest in the C&O and retain its interest in the N&W. The Pennsylvania offered to sell its stock in the C&O to the NYC, but for some reason or other Central, after making an offer to the Pennsylvania for the latter's interest in the C&O, did not go through with the deal. The Pennsylvania sold its C&O stock to Kuhn, Loeb and associates and later on the Central also disposed of its C&O holding.

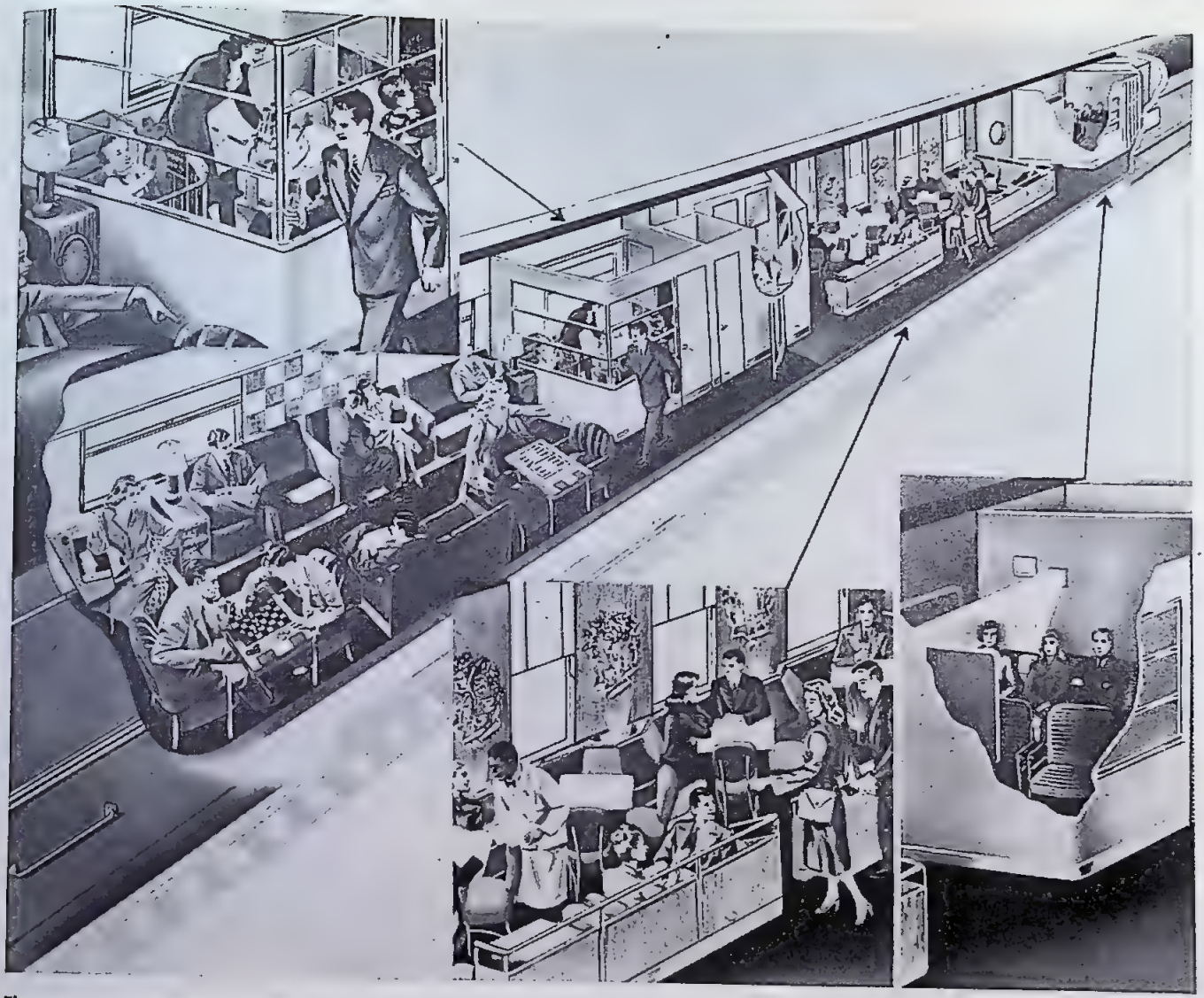
"It has always seemed to me that when the Pennsylvania made its election in 1906 to tie in its future with the N&W, the Central should have seized the opportunity to acquire control of the C&O. The two roads, Pennsylvania and Central, have always been vigorous competitors in all lines of endeavor, and Central has been at a disadvantage in not having an affiliation with a Pocahontas road which would have given it equality of opportunity with the Pennsylvania-Norfolk & Western system.

"If Central and C&O had formed such an alliance in the early part of the century, it is my judgment that the benefits flowing therefrom would have been so apparent that no one today would question the propriety of that alliance in the public interest. Throughout the years, Central's inherent weakness has been in its lack of originated coal tonnage. A union with C&O would have given Central the balanced traffic that it has lacked and would have placed it nearer to a parity with the Pennsylvania-N&W group. Indeed, this union is the only practical way in which the Central may approach a parity with the Pennsylvania."

The changes in railroad competition through the years have only served to emphasize the possible community of interest between NYC and C&O. Assistant to the President Carleton Meyer, a former NYC man himself, brought the picture down to date.

*Meyer:* "The Central's situation today is one which calls for sober appraisal and the development of a program on the part of all concerned that will turn the tide and restore this great institution to its rightful place in American transportation. This is not only a matter of concern to investors and to railroad men; it

*Electro-Motive celebrated its 25th anniversary October 24 and at the same time dedicated a new Locomotive Development Center at its LaGrange, Ill., works, which is now the largest locomotive factory in the world. H. L. Hamilton (right), who founded Electro-Motive as a gas-electric company 25 years ago, posed with Charles Kettering, formerly in charge of General Motors research and responsible for the engine used in GM locomotives. They are standing in front of the Denver Zephyr, which is said to be the farthest travelled self-propelled land vehicle in the world, with 3,695,942 miles. This locomotive runs 1034 miles every day. Mr. Hamilton has not only had the satisfaction of watching his business grow up, but he is still with it as a vice-president of General Motors.*



Three cars of a completely new variety, "recreation cars," are being built for the Pennsylvania Railroad by ACF for service on the Jeffersonian, coach streamliner between New York and St. Louis. A small newsreel theater, a game and reading room, a children's nursery and a buffet-lounge in modern club styling are included. The theater is the glass partitioned room at the far end in the view above, and has sofa and lounge chairs.

is a matter of vital public interest as well.

"Of course, some of the conditions faced by the Central are common to the whole railroad industry. But many of them are special and peculiar to the Central. In my judgment, an affiliation with the C&O will lay a foundation for the ultimate solution of most, if not all, of the serious problems that are special and peculiar to the Central. Ultimate unification of the Central with the C&O will create a railroad system fully capable of leading the way to new and higher standards of public service on the part of American railroads.

"The most serious and fundamental weakness of the New York Central as a railroad system is its lack of adequate originated coal tonnage. . . . On the other hand, the Central stands high indeed in reaching coal-consuming industries. Central terminates as much coal as any railroad in the country. . . . The Central serves seven of the 10 largest United States cities . . . the states served by the Central produce 81% of the nation's steel . . . 47% of all retail coal is sold in the New York Central's area . . . the 11 states reached by the Central account for 81% of the nation's bituminous coal consumption. The thing about coal which the Central . . . can hardly advertise is its very weak position as to on-line sources of supply.

## Competition has hit NYC hard

"The development of highway and air competition and the intensification of water competition since the 1920's have affected both the volume and the profitableness of passenger, mail, and express traffic and of merchandise and many other kinds of freight traffic. These are fields in which the Central has always had a strong position. On the other hand, the new competition has had comparatively little effect on bituminous coal traffic. Therefore, recent trends, which were interrupted only temporarily during the war, have affected the Central more adversely than many carriers and have tended to make the Central's weakness in coal more serious than it would have been if these trends had not occurred."

*Bowman:* "An alliance with the NYC would indeed be advantageous to C&O coal operators, because it would hold the promise that the traffic organization of the Central would have an interest in the marketing of their coal, just as the traffic organization of the Pennsylvania today assists the coal operators on the N&W in the distribution and marketing of their tonnage.

"On the other hand, NYC originates nearly six times as much manufactured and miscellaneous products as does the C&O. It is reasonable to expect that the C&O traffic organization would be of assistance to the NYC organization in providing additional outlets for traffic originating on the latter's line, just as the N&W traffic organization functions in connection with traffic originating on the Pennsylvania. It can also be expected that more of this manufactured and miscellaneous traffic originating on Central's lines would be routed via the C&O and that this development would tend to furnish a more balanced traffic for the Chesapeake & Ohio.

"An association between two carriers, such as herein proposed, would materially assist from an operating viewpoint in working out speed-up arrangement

**The Richmond, Fredericksburg & Potomac has long been a road of many streamliners, but all of them have been through trains using the RF&P merely as a link in the New York-Florida route. Now RF&P has its own streamliner, strictly for Washington-Richmond business. The equipment was built by ACF, and the parlor-cafe car is shown in the photograph.**

between carriers having a mutual interest in one another. While, generally, one road handles the interchange traffic of another in an expeditious manner, the fact, however, cannot be denied that where an association of interest prevails, it is oftentimes possible to work out through train arrangements from the one road to the other."

So the decision rests with the Commission. It may say, "Yes." The examiners' report may even be unfavorable, but the Commission as a whole may reverse the examiners as they did in the Allegheny case and allow the C&O interest in NYC. Whatever happens, the days of empire building are not past. I. B. Tigrett has within our generation built the 45-mile Birmingham & Northwestern into the 2900-mile Gulf, Mobile & Ohio, even taking into his fold the historic Alton. The C&O has just absorbed the Pere Marquette. The Nickel Plate, now independent, may merge with the Wheeling & Lake Erie, which it controls, and may in turn be absorbed by some other connecting line. The Santa Fe may soon get I.C.C. permission to use the Alton Kansas City line (jointly with the Burlington) as an entrance into St. Louis. The Atlantic Coast Line absorbed the Atlanta, Birmingham & Coast, and may absorb the Florida East Coast. And, the Commission willing, Messrs. Young and Bowman may not only sit on the NYC board, but after a few years of "going steady" C&O might like NYC well enough to "marry the girl."

## Around and around she goes

The Interstate Commerce Commission has granted an emergency interim rail freight rate increase to offset the 15½-cent hourly wage increase granted non-operating employees in September. Now a 15½-cent increase has been granted to some of the operating employees, retroactive to November 1. The railroads enjoyed just 18 days of relief, for the rate increase was effective as of October 13. The rate increase averages 8.9 per cent over the country as a whole, or an estimated $125.2 million for the period October 15-December 31. Increased costs for the same period are estimated at $136.1 million — exclusive of the new wage increase for operating employees.

# Equipment notes

Railroad passenger cars on order November 1 numbered 2855, or 257 more than a year before. Cars delivered this year up to November 1 numbered 809. New York Central is waiting for 366 cars; Chesapeake & Ohio, 303; Pennsylvania, 290; New Haven, 200; Milwaukee, 155; Atlantic Coast Line, 124; Southern Pacific, 107. Railroads with less than 100 on order make up the balance of the backlog.

New York Central's new two-unit diner and kitchen-lounge, delivered in September by Budd, is now in service on the *Pacemaker*. The two cars are the first to be received of an order for 387 passenger train units — sleepers, diners, club and tavern cars, observation cars and lounge cars. NYC has already placed 233 new streamlined stainless-steel coaches into service, along with 100 new baggage cars. It recently ordered 2000 55-ton hopper cars for its own ownership, and 1000 70-ton hoppers for the Pittsburgh & Lake Erie. All told, NYC has ordered approximately $150 million worth of new rolling stock since war's end.

Chicago & North Western received 26 streamlined *"400"* coaches in October and November, and immediately placed them in service. They are part of a 78-car equipment replacement program which will include five complete new streamliners to be placed in service in 1948, as soon as the remaining 52 cars are received. The new streamliners: Chicago to Omaha; Sioux City to a connection with the Chicago-Omaha train; Chicago to Ashland; *Minnesota "400"; North Western Limited.*

Baltimore & Ohio will order 1000 50-ton hopper cars and is inquiring about 2000 70-ton hoppers. . . . Nashville, Chattanooga & St. Louis has placed in service 500 new all-steel box cars built by the Bessemer (Ala.) plant of Pullman-Standard. They are painted standard NC&StL red with a 24-inch gold stripe on each side, and when several are coupled together they have the appearance of a streamlined freight train.

## New trains

New daytime service between Chicago and Omaha, Neb., is now being provided by Rock Island with its *Corn Belt Rocket* and by Burlington with its *Nebraska Zephyr*. Both trains went into service in November.

The *Nebraska Zephyr* leaves Chicago at 12:45 p. m. and arrives at Omaha at 9:15 p. m., then continues to Lincoln, Neb., where it arrives at 10:30 p. m. Eastbound, it leaves Lincoln at 11 a. m., Omaha at 12:15 p. m., and arrives in Chicago at 8:45 p. m. The stainless-steel train consists of a cocktail-lounge car, three coaches, a dinette coach, a full-length dining car, and a parlor-observation car.

The *Corn Belt Rocket* augments the *Rocky Mountain Rocket* to provide daytime service in both directions. Thus, the westbound *Corn Belt* leaves Chicago at 8:05 p. m. and arrives in Omaha at 7:30 a. m., while the *Rocky Mountain* leaves Chicago at 1:55 p. m. and arrives in Omaha at 10:51. The eastbound *Corn Belt* leaves Omaha at 11:30 a. m. and arrives in Chicago at 8:30 p. m., and the eastbound *Rocky Mountain* leaves Omaha at 11:59 p. m. to arrive in Chicago at 8:50 the next morning.

Consist of the *Corn Belt Rockets* will vary according to their direction. The westbound train will carry stainless-steel Pullman-Standard baggage, dining, full parlor, parlor-observation, and reclining seat chair cars, plus a standard sleeping car until new sleepers now on order are received. The eastbound train will not carry a sleeper but will add a full parlor car at Rock Island.

## Chicago-Florida service

The Chicago-Florida winter season trains will begin operating December 1 on a coordinated schedule on three railroads. Illinois Central's *Sunchaser* will make the initial trip. The following day the run will be made by Pennsylvania's *Florida Arrow*, and the Chicago & Eastern Illinois' *Dixieland* will make the third trip. Thereafter the trains will alternate every third day, leaving Chicago in the morning and arriving in Miami in the following evening.

## End railbus service

Norfolk Southern ran its last railbus between Norfolk and Virginia Beach, Va., on November 8. Passengers will now be

served by highway bus, but freight will continue to use the rails. Originally this line was operated by steam; it was later electrified. Electric operation was discontinued in 1935 and the gasoline-powered railbuses were substituted.

## Locomotive Notes

American Locomotive Company has unfilled orders totaling $70 million, and will need all of next year's production schedule to complete them. Alco production is now 92 per cent diesel and 8 per cent steam, while last year the ratio was 75 per cent steam and 25 per cent diesel. Orders now on hand are for 143 railroads, 10 of them foreign, and 37 heavy industries. . . . John I. Yellott, director of research for the National Coal Association's locomotive development committee, predicts "at least one" coal-fired gas turbine locomotive on the rails in 1948.

Chicago Great Western has dieselized all through freight service between Chicago and Oelwein, Ia., 246 miles. . . . Pittsburgh's City Bureau of Smoke Prevention is happy to learn that most railroads serving the city are planning to dieselize their yard operations there. Until this year, few diesel locomotives were seen in Pittsburgh.

Engine 30 of the Huntingdon & Broad Top Mountain Railroad & Coal Company [March 1947 TRAINS] has been scrapped. The 40-year-old Eight-Wheeler made its last rail trip October 11 to Modena, near Reading, Pa., where a scrap dealer took her over.

Norfolk & Western has developed an automatic steam switcher which approaches the diesel in availability. Its advantages over the conventional steam switcher include: much longer periods between servicing; increased engine output due to lack of back pressure on the cylinders; less attention required from enginemen, thereby increasing the work that the engine can do in a given period; better combustion due to the regulating of fuel and air supply, resulting in less smoke and lower fuel costs. Automatic maintenance of boiler pressure permits leaving the locomotive unattended.

New York Central's class S Niagara (4-8-4) locomotives are capable of exceeding 25,000 miles a month, a test program indicates. This is possible by using the locomotives on long, fast through runs and by keeping enginehouse time to a minimum. Monthly boiler washes and daily inspections are both completed between runs of the six test locomotives which arrive at Harmon, N. Y., from Chicago in the morning and depart in the late afternoon. In one 31-day month engine 5500 made 28,878 miles, and the five others in the test fleet each made from 25,350 to 28,681 miles.

## GN plans line change

To eliminate 216 degrees of curvature and to reduce a 2.2 per cent grade to 2.09 per cent, Great Northern plans a line relocation a short distance east of Cascade Tunnel and 4 miles west of Merritt, Wash. The new line will by-pass 4600 feet of old line and will involve boring a 700-foot tunnel and erecting a 700-foot steel bridge over the Nason Creek. It will cost about $1 million.

## Odds and Ends

Union Pacific has earmarked $80 million for additional new equipment and fixed facilities. President G. F. Ashby terms the UP's postwar program "the second rebuilding of the railroad." E. H. Harriman did the first rebuilding at the turn of the century. His son, E. Roland Harriman, is in charge of the present program. . . . Norfolk & Western will remove its engine terminal near the Winston-Salem (N. C.) passenger station and build a new plant 3 miles north of the station. N&W will also add to its engine facilities at Pulaski, Va. . . .

Transcontinental through trains are under consideration but are a long way off, due to equipment shortages. The Pennsylvania has been thinking of such through service from New York via PRR to St. Louis, Missouri Pacific and Texas & Pacific to El Paso, and Southern Pacific to Los Angeles. To operate a transcontinental daily through train would require eight sets of equipment. . . . C&O has added hostesses to four more trains, and is offering three all-expense tours for winter travelers.

Lima Locomotive Works (beg pardon —Lima-Hamilton) was host to nearly 400 railfans who chartered a special B&O train to take them from Chicago and intermediate points to the plant at Lima, O. The complete process of manufacture, assembly and testing of locomotives was pointed out by a well-organized team of guides. . . . Morton Gould, music composer and conductor, fulfilled an early ambition when he received permission to ride the cab of C&NW's *City of Denver* en route to a concert engagement at Ames, Ia. . . . The Wenatchee Valley Traffic Association made a big to-do about the 10,000th trainload of apples to leave the valley. Great Northern supplied a special diesel for the bedecked train.

Missouri-Kansas-Texas, which has been considering affiliation with Chicago & Eastern Illinois and Chicago Great Western, has decided to forget the idea. . . . Monon rigged up its own *Friendship Train* to deliver carloads of Indiana contributions to the official *Friendship Train* at Chicago. . . . Baltimore & Ohio will begin selling "best-seller" books to passengers on the *Capitol Limited, National Limited* and *Cincinnatian* on December 1. Other railroads plan a similar service.

## I. C. C. signal hearing

Train safety depends upon many things other than train stop, train control or cab signaling systems. This was brought out in Interstate Commerce Commission hearings on the petitions by six railroads for relief from compliance with the signaling order issued by the Commission last June. Safety depends also on well-maintained equipment and roadbed, and if it becomes a choice between signaling devices and good maintenance, good maintenance should be the choice. This was emphasized by H. H. Minchin, vice-president, operation, of the Santa Fe.

Mr. Minchin presented an accident record in his testimony, and said: "In my opinion this accident record clearly shows the inadvisability of requiring a railroad to make excessive expenditures for signaling devices to prevent collisions which have not been occurring during a long period of operation at higher speeds. . . . We must make heavy expenditures each year, not only to provide signal protection, but to keep our roadway and track in safe condition, and to provide the most modern and safe equipment. Unwarranted expenditures in one field necessarily force us to curtail needed expenditures in other fields, because, after all, all these expenditures must be provided from the earnings of the railroad. . . .

"In considering safe operation, we have, to our best judgment, taken into consideration the many other things that affect safety such as sturdy track — keeping it in perfectly safe condition, including bridges of proper construction, proper weight of rail, good ties, ballast, etc. It includes taking into consideration the proper protection of the more heavily traveled highway crossings, also includes the well-designed, properly maintained locomotives and cars, as well as men who know and properly observe the rules. . . . In conducting our business . . . we must take into consideration all of the forces with which we are dealing, and strive for a very high degree of safety. . . . This brings into sharp focus the balancing of one factor against the other, to arrive at the best possible conclusion."

The Santa Fe explained plans to install intermittent train stop on certain sections of line but asked that it not be required to install the train stop equipment on locomotives which are not operated at more than 80 miles an hour on these sections. It also asked permission to operate certain trains as fast as 90 miles an hour, without train stop, train control or cab signaling, on certain other sections of line.

Other railroads whose petitions were heard were Great Northern, Union Pacific, Southern Pacific, Western Pacific, and Burlington. None of the six railroads asked to be excused from installing block signals on lines not now so equipped, but rather asked permission to operate certain trains at speeds greater than 80 miles an hour without installing train stop, train control or cab signaling in addition to existing automatic block, as required by the Commission's order [page 4, August 1947 TRAINS].

## Freedom Train has its difficulties

Small clearances on some eastern railroads have resulted in difficulties in exhibiting the *Freedom Train*. For instance, before the train could be exhibited at Jamaica, L. I., the locomotive had to be altered to afford clearance over third rail structures and at high station platforms on the Long Island Rail Road. A sharp curve at Vanderveer Park had to be realigned to permit operation of the locomotive.

To clear the Hudson River tubes and low structures in Pennsylvania Station, New York, the locomotive's air horn had to be removed. Before passage in the New York tunnels, Alco men removed the stack ventilator, horn, and contact shoe. The latter wouldn't clear the Long Island Rail Road third rails.

*A. C. Kalmbach.*

# Orange 'n Blue

C&EI

*Streamliners Celebrate a*

## *Happy Birthday*

Among the first of the postwar streamliners to go into service, The MEADOWLARK and The WHIPPOORWILL have rolled up an enviable record in their first year of operation. Not only have they come up to expectations in traffic and dependability, but they have created a host of new friends for C & E I—*The Chicago Line.* Powered by the latest type passenger Diesel locomotives, these trains offer travel luxury at high speed and moderate cost between Chicago-Southern Illinois and Chicago-Indiana points.

## The Meadowlark

*Chicago to Southern Illinois—Equipped for the utmost in comfort in coach travel; the* Sparhawk Inn, *a hospitable lounge-grill car, provides lounge facilities and fast, efficient meal service en route.*

| TRAIN No. 25 (Read Down) SOUTHBOUND | | TRAIN No. 26 (Read Up) NORTHBOUND |
|---|---|---|
| 5:10 pm | lv Chicago ar | 12:05 pm |
| 5:24 pm | lv Englewood ar | 11:50 am |
| 5:50 pm | lv Chicago Heights lv | 11:28 am |
| 6:12 pm | lv Momence lv | 11:06 am |
| 6:39 pm | lv Watseka lv | 10:43 am |
| 7:48 pm | lv Villa Grove lv | 9:43 am |
| 7:59 pm | lv Tuscola lv | 9:23 am |
| 8:13 pm | lv Arthur lv | 9:10 am |
| 8:26 pm | lv Sullivan lv | 8:54 am |
| 8:46 pm | lv Shelbyville lv | 8:35 am |
| 9:24 pm | lv St. Elmo lv | 7:57 am |
| 10:01 pm | lv Salem lv | 7:23 am |
| 10:30 pm | lv. Mt. Vernon lv | 6:54 am |
| 11:00 pm | lv Benton lv | 6:24 am |
| 11:11 pm | lv West Frankfort lv | 6:13 am |
| 11:21 pm | lv Johnston City lv | 6:03 am |
| 11:31 pm | lv Marion lv | 5:53 am |
| 12:20 am | ar Cypress lv | 5:05 am |

## The Whippoorwill

*Chicago to Evansville—Features the* Shakamak Inn *diner, with diagonal tables and superior service and cuisine; the* Chicagoland *observation parlor car; ultra-modern chair car accommodations.*

| TRAIN No. 3 (Read Down) SOUTHBOUND | | TRAIN No. 4 (Read Up) NORTHBOUND |
|---|---|---|
| 5:30 pm | lv Chicago ar | 12:20 pm |
| 5:44 pm | lv Englewood ar | 12:05 pm |
| 6:07 pm | lv Chicago Heights lv | 11:42 am |
| 7:00 pm | lv Milford, Ill. lv | 10:45 am |
| 7:13 pm | lv Hoopeston, Ill. lv | 10:34 am |
| 7:43 pm | lv Danville, Ill. lv | 10:12 am |
| 8:43 pm | lv Terre Haute, Ind. lv | 9:07 am |
| 9:08 pm | lv Sullivan, Ind. lv | 8:38 am |
| 9:38 pm | lv Vincennes, Ind. lv | 8:06 am |
| 10:11 pm | lv Princeton, Ind. lv | 7:34 am |
| 10:50 pm | ar Evansville, Ind. lv | 7:00 am |

**Latest addition to the Orange 'n Blue**

## The New Cardinal

*Convenient daytime service between Chicago and St. Louis—Modernized conventional equipment offers latest seating accommodations in coach or parlor car; smooth, fast, air conditioned; Dinette-parlor provides economy meals, luncheonettes, or cocktails. Specify the* Cardinal *between Chicago and St. Louis.*

| TO ST. LOUIS | | TO CHICAGO | |
|---|---|---|---|
| lv Chicago | 9:25 am | lv St. Louis | 6:10 pm |
| ar St. Louis | 2:57 pm | ar Chicago | 11:45 pm |

**CHICAGO & EASTERN ILLINOIS**
**railroad**
*The Chicago Line*

# "Gee, Daddy, they had a private car just for us ladies"

That's right, young lady. There is a combination Touralux-coach with 8 berth sections and 24 reserved coach seats exclusively for women and children on The Milwaukee Road's OLYMPIAN HIAWATHA.

The tastefully decorated Touralux sleeping cars have individually lighted and air conditioned berths. Yet berth cost and fare on a round trip between Chicago and Seattle is about $37 less than in standard sleepers.

You can ride in comfortable, reclining chair coaches like the one pictured below, at left, for less than 2c a mile . . . round trip between Chicago and Seattle only $76.20 plus tax.

Also your choice of de luxe Pullman accommodations.

Railroad tickets are the ideal Christmas gift. Prepaid tickets may be arranged through your local railroad agent, or write: F. N. Hicks, Passenger Traffic Manager, 708 Union Station, Chicago 6, Ill.

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*Daily service between*

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TWIN CITIES • MILES CITY
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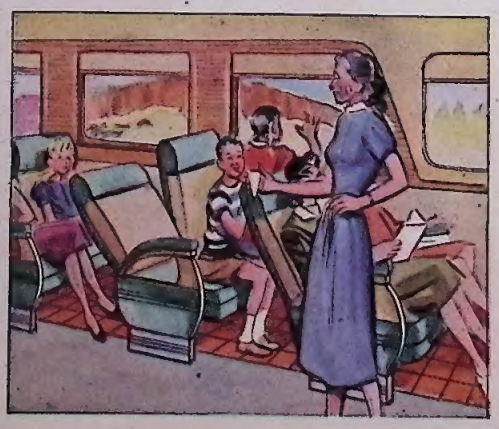
*Chicago, Milwaukee, St. Paul and Pacific Railroad*



*Left*—Reclining chairs padded with foam rubber, footrests, fluorescent lighting, big luggage racks and spacious lounge rooms are features of coaches on the OLYMPIAN HIAWATHA.

*Right*—This view of the women's Touralux car shows the comfortable daytime seats. Lower berths are higher, wider and longer than before and there is a charming lounge.

Suit by Claire McCardell

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ONE WAY $22.75 (plus tax)

ROUND TRIP $34.60 (plus tax)

LOW COACH FARE Includes reserved seat, use of Lounge Cars and smart Diner.

# Your ticket to Low-Cost Luxury

## THE GREAT ALL NEW *Pacemaker*

Soon, your *Pacemaker* ticket will mean more than ever in low-cost luxury. For this famous New York Central coach streamliner is due for an exciting transformation.

Yes, the *Pacemaker* will be gleamingly, luxuriously new. And as always, it will be yours from end to end at New York Central's regular low coach fares.

As always, too, the *Pacemaker* will streak nightly over the famous Water Level Route... linking New York and Chicago on a schedule almost as fast as the 20th Century Limited.

And the *Pacemaker* is not alone! For today, all over New York Central, world's largest fleet of post-war coaches brings you air-conditioned travel that's *fare*-conditioned, too!

**New Custom Built Coaches!**
Air-conditioned, with deep, lean-back seats, wide windows, fluorescent lights, and many another luxury that 5,000 Central passengers said they wanted.

**New "King Size" Dining Cars!**
Each so spacious it needs a separate kitchen car to prepare those delicious meals which you select from the *Pacemaker's* special money-saving menu.

**New Luxury Lounge Cars!**
Both a Tavern Lounge and an Observation Car will be yours for a change of scene...music, refreshments, a quiet game or chat on the all-coach *Pacemaker*.

NEW YORK CENTRAL

The Scenic Water Level Route